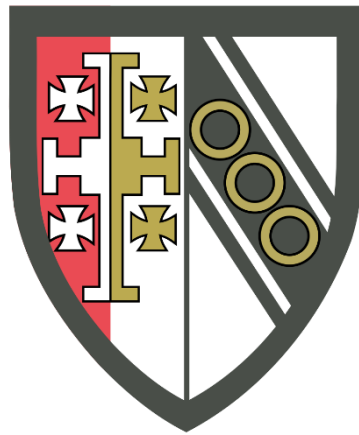


The Subjunctive in Celtic

Studies in Historical Phonology and Morphology



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Declaration

This thesis is the result of my own work and includes nothing which is the outcome of work done in collaboration except as declared in the Preface and specified in the text.

It is not substantially the same as any that I have submitted, or, is being concurrently submitted for a degree or diploma or other qualification at the University of Cambridge or any other University or similar institution except as declared in the Preface and specified in the text. I further state that no substantial part of my dissertation has already been submitted, or, is being concurrently submitted for any such degree, diploma or other qualification at the University of Cambridge or any other University or similar institution except as declared in the Preface and specified in the text.

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Word count: 79,849

Abstract

The Subjunctive in Celtic: Studies in Historical Phonology and Morphology

Mark David Darling

This thesis attempts to address a number of problems related to the phonological and morphological development of the subjunctive mood in the Celtic languages, and to come to a reconstruction of the category based on all of the data attested in the documented languages. The origin of the various subjunctive morphemes attested in the Celtic languages has long been a contested matter in comparative Celtic and Indo-European linguistics, particularly regarding the question of whether the \bar{a} -subjunctive of Old Irish constitutes a shared innovation with the Italic branch of the language family. In this thesis, the data is comprehensively reassessed, attempting to reconstruct the Proto-Celtic subjunctive from the ground up. After a brief survey of the subjunctive in Indo-European more generally, the material from the relatively well-understood Insular Celtic languages is examined. Significant progress has been made in the treatment of the subjunctive in Irish and Brittonic, particularly by McCone (1991), and, more recently, Zair (2012b). Some debate still remains, however, particularly in relation to a set of irregular forms in the Brittonic languages (MW *el*, O/MBr. *-el*), which are taken by Jasanoff (1994; 2009) as conclusive proof of an Italo-Celtic \bar{a} -subjunctive. This work shows that these forms can be explained without recourse to an \bar{a} -subjunctive category otherwise unattested in Brittonic Celtic. The distinguishing characteristics of the subjunctive categories attested in Insular Celtic are then used to come to a provisional reconstruction of the category.

The second half of the thesis assesses the Continental Celtic evidence for the subjunctive. As this material is more fragmentary, and there is greater controversy as to its interpretation, first the historical phonology of Gaulish and Celtiberian is examined, in order to set criteria by which subjunctive forms may be identified. The possible evidence for the subjunctive in these languages is then analysed on a case-by-case basis, in order to establish whether it is truly admissible as evidence of the category. It is found that many of the forms previously identified in the scholarship as subjunctive are likely to have been misinterpreted. Nonetheless, there is a small but significant body of evidence for the category in Continental Celtic. This is finally brought together with the Insular Celtic material to establish a reconstruction of the Proto-Celtic subjunctive. The possible consequences of this reconstruction to that of the Indo-European subjunctive are then briefly assessed.

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Bibliographical Abbreviations

BB – *Bechbretha* (Charles-Edwards and Kelly 1983)

CCCG – *A Concise Comparative Celtic Grammar* (Lewis and Pedersen 1989)

CIG – *Corpus inscriptionum graecarum*

CIH – *Corpus iuris hibernici: ad fidem codicum manuscriptorum recognovit* (Binchy 1978)

CIL – *Corpus inscriptionum latinarum*

DLG – *Dictionnaire de la langue gauloise* (Delamarre 2003)

EC – *Echtrae Chonnlai* and the beginnings of vernacular narrative writing in Ireland (McCone 2000)

eDIL – *Electronic Dictionary of the Irish Language* (Toner et al. 2019)

EGOW – *Etymological Glossary of Old Welsh* (Falileyev 2000)

GC – *Grammatica Celtica* (Zeuss 1853)

GG – *Grammatici Graeci recogniti et apparatu critico instructi* (Schneider et al. 1867–1910)

GMW – *Grammar of Middle Welsh* (Evans 2006)

GPC – *Geiriadur Prifysgol Cymru* [Dictionary of the University of Wales] (Online) (2014)

GOI – *Grammar of Old Irish* (Thurneysen 2003)

IEW – *Indogermanisches etymologisches Wörterbuch* (Pokorny 1959)

K – *Grammatici Latini, ex recensione Henrici Keilii* (Keil 1855–1880)

KPV – *Die Keltischen Primärverben* (Schumacher 2004)

LIPP – *Lexikon der Indogermanischen Partikeln und Pronominalstämme* (Dunkel 2014)

LIV² – *Lexikon der Indogermanischen Verben* (Rix and Kümmel 2001)

LP – *Llawysgrif Pomffred: An edition and study of Peniarth MS 259B* (Roberts 2011)

LSM – *Beunans Meriasek. The life of St Meriasek, bishop and confessor.* (Stokes and Hadton 1872)

MI. – *Milan Glosses on the Psalms, Thesaurus Palaeohibernicus* I:7–483 (Stokes and Strachan 1901–1903)

MLH – *Monumenta Linguarum Hispanicarum*

A.(number) refers to coin legends in Untermann (1975).

K.(number) refers to Celtiberian inscriptions in Untermann (1997).

V.1 refers to Wodtko (2000)

NIL – *Nomina im Indogermanischen Lexikon* (Wodtko, Irslinger, and Schneider 2008)

Paul. Fest. – Sexti Pompei Festi De verborum significatu quae supersunt cum Pauli epitome (Lindsay 1913)

RIB – Roman Inscriptions of Britain (Collingwood, Wright, and Tomlin 2009)

RIG – *Recueil des Inscriptions Gauloises*

G-(number) refers to inscriptions in Lejeune (1985), *RIG I*.

E-(number) and L-(1-17) refer to inscriptions in Lejeune (1988), *RIG II.1*.

L-(18-139) refer to inscriptions in Lambert (2002), *RIG II.2*.

Sg. – St Gall Glosses on Priscian, *Thesaurus Palaeohibernicus II:49–224* (Stokes and Strachan 1901–1903)

TBF – The Romance of Froech and Findabair or The Driving of Froech's Cattle: *Táin Bó Froíoch* (Meid 2015)

VKG – *Vergleichende Grammatik der keltischen Sprachen* (Pedersen 1909)

Wb. – Würzburg Glosses on the Pauline Epistles, *Thesaurus Palaeohibernicus I:499–712* (Stokes and Strachan 1901–1903)

1 Introduction

This chapter presents the structure of the rest of the work, and summarises the problems to be addressed. It surveys the wide body of research into the subjunctive in the Indo-European languages in order to contextualise the Celtic material to follow.

1.1 General Introduction

The purpose of this work is to examine the morphology of the subjunctive in the Celtic languages, and to reconcile the disparate data attested in the individual languages into a coherent reconstruction of this morphological category in Proto-Celtic. The problem of the Celtic subjunctive has been treated a number of times in the past (Watkins 1962; Rix 1977; Bammesberger 1982; McCone 1991), but such studies have generally worked from Proto-Indo-European “down” to the attested languages. The approach to be taken here is rather to survey the facts of the individual languages, and to attempt to work back from the attested data to a reconstruction of Proto-Celtic. After briefly surveying in this chapter the evidence for the form and function of the subjunctive in other Indo-European branches and in Proto-Indo-European itself, the data from the better attested Celtic languages – the mediaeval languages of the British Isles – are examined in Chapter 2, in order to attempt to establish the outlines of the reconstruction for Proto-Celtic. Indo-European studies of the Celtic languages have often given primacy to Old Irish, at the expense of the Brittonic languages Welsh, Breton, and Cornish. This is largely because, in many respects, Irish is considerably more morphologically conservative than its neighbours across the Irish Sea, for example in its retention of nominal case, lost by the time of the earliest attestations of the Brittonic languages. This primacy has, however, led to a tendency to attempt to explain Brittonic forms simply by looking for correspondence with OIr., rather than treating both branches as equally capable of both innovation and conservation. By treating Brittonic as subordinate to Irish, it seems possible that valuable data are being ignored or misinterpreted, and in what follows I hope to contribute to rectifying this situation.

The second part of the study will concern itself with the evidence for the subjunctive in the ancient Celtic languages of mainland Europe, and in particular Gaulish and Celtiberian.¹ The most significant problem faced in analysing data from these languages is their fragmentary nature, which means that our understanding of them can be considered imperfect, at best. Additionally, scholarly opinion is divided regarding even the history of the phonological systems of Gaulish and

¹ Since no subjunctive forms have been identified in Lepontic, it will be omitted from detailed study, but data from this branch will occasionally be employed in discussion.

Celtiberian. This renders morphological analysis of individual forms fraught with difficulty, since the interpretation of any given form is influenced by one's views regarding the historical phonology of the language. In order to interpret the data from these languages as accurately as possible, therefore, several problems in their historical phonology and morphology must first be addressed, as well as a few smaller issues related to the writing systems in which the material is preserved. Chapter 3 will consequently examine several theories relating to the historical phonology and morphology of Gaulish and Celtiberian, in order to attempt to establish a consistent set of phonological rules to inform the analysis of the material in these languages. Having established these rules in Chapter 3, in Chapter 4 the individual forms in Gaulish and Celtiberian will be analysed. The forms to be analysed have been collated based on their identification as subjunctive in previous scholarship. The goal of the analysis will be to determine if these forms are indeed subjunctive, and, if so, what they might contribute to the reconstruction of the Proto-Celtic morphological category. Finally, in Chapter 5 an attempt will be made to draw together the findings from the Insular and Continental Celtic material into a coherent reconstruction of the morphology Proto-Celtic subjunctive, and to consider the potential wider ramifications of this reconstruction.

1.2 The Subjunctive in Indo-European

The term 'subjunctive' has been used to describe a wide variety of formations the Indo-European languages, many of which are not cognate to each other. This is largely due to the influence of the Graeco-Roman grammatical tradition on early linguistic studies: the Greek term was ὑποτακτικὴ ἔγκλισις (*GG*.IV.2:8, l.28), referring to the mood which most often appeared in subordinate clauses in Greek. This was later calqued by the Roman grammarians as *modus subiunctiuus uel adiunctiuus* (*K*.I:340) or *modus coniunctiuus* (*K*.VII:344) to describe the mood in their own language that was functionally similar, although etymologically distinct, as much of its morphology was cognate with the Greek optative mood. The term 'subjunctive' is consequently used in modern descriptive grammar primarily to denote verbal forms which are grammaticalised "to appear obligatorily in certain types of subordinate clauses" (Bybee et al. 1994:212), i.e. 'subjunctive' *stricto sensu*. It can also, however, refer to forms which convey a variety of epistemic meanings, which is to say "the extent to which the speaker is committed to the truth of the proposition" (idem, 1994:179), and additionally a number of deontic modal functions, expressing obligation on the part of the subject of the verb, as in the 'jussive' or 'hortative' subjunctives of Latin, Greek and OIr. Yet more unhelpfully to the Indo-Europeanist, morphemes labelled 'subjunctive' in Indo-European languages are every bit as varied in their form as in their function, deriving from a variety of sources in the parent language. Some

examples of this formal variety are provided in the table below, with non-classical languages glossed.

Table 1-1 Subjunctive morphemes across Indo-European

Branch	Morpheme	Examples	Origin
Armenian	-iĉ-	ClArm. <i>bericē</i>	PIE iterative < * <i>b^hér-isĉ-e-ti</i> , '(s)he carries/would carry' (Fortson 2010:§16.39; Schmitt 1981:142)
Germanic	Proto-Germanic * <i>-ai-</i>	Goth. <i>bairais</i> OHG <i>berēs</i>	PIE thematic optative < * <i>b^her-o-ih₁-s</i> , 'you would carry'
Italic	-(i)ē-	Lat. <i>amēs</i> OLat. <i>siēm</i>	PIE athematic optative < Proto-Latin * <i>amā-ĵē-s</i> < PIE * <i>-ĵeh₁-</i> < PIE * <i>h₁s-ĵeh₁-m</i>
	-ā-	Lat. <i>moneās</i>	Uncertain; traditionally connected with OIr. ' <i>a</i> -subjunctives' such as <i>·bera</i> , 'would carry' (Weiss 2009:416–18, 466).
Indo-Iranian	-a/ā-	Vedic 3sg. <i>yunájat</i> 1pl. <i>yunágāma</i>	PIE 'subjunctive' < * <i>ĵu-né-g-e-t(i)</i> , cf. ind. ² <i>yunákti</i> < * <i>ĵu-né-g-ti</i> < * <i>ĵu-né-g-o-mos(i)</i>
	-ā-	3sg. <i>bhárāt</i>	< * <i>b^hér-e-e-t(i)</i> , cf. ind. <i>bhárati</i> < * <i>b^hér-e-ti</i>
Greek	-ε/ο-	Homeric ἴομεν	PIE 'subjunctive' < * <i>ih₁-o-me/ο-</i>
	-η/ω-	φέρησι	< * <i>b^hér-e-e-ti</i>

The morphemes in Greek and Indo-Iranian derive from a common source, and this is the form most commonly associated with the subjunctive as a verbal category for Proto-Indo-European, as the marker of the 'thematic subjunctive'. To form the subjunctive, the morpheme **-e/ο-* was appended to the present or aorist stem of a verb to create a subjunctive stem. This morpheme is problematic, however, as it is formally identical with the thematic present tense suffix **-e/ο-*, a fact

² Standard grammatical abbreviations will be used throughout this work. The phonemic inventory of PIE will be essentially that of *LIV*², and of Proto-Celtic that of *KPV*. **h_x* refers to a laryngeal of unspecified quality, while **H* is used in formulations of sound-laws to refer to *any* laryngeal.

which has led some recent scholarship (e.g. Bozzone 2012; E. Dahl 2013) to propose a common origin for the two. This formal identity may have led to the creation of a ‘long-vowel subjunctive’ in Proto-Indo-European when the subjunctive of thematic verbal stems was formed. Long vowel subjunctives are attested for such stems in Indo-Iranian (as in *bharāt*) and Greek (e.g. φέρη, with ι-subscript of obscure origin, perhaps φέρετε : φέρητε :: φέρει : X, with X = φέρη).³ The fact that such forms seem to be on the increase in both branches in the historical period, however, and at the expense of the short-vowel thematic subjunctive, perhaps suggests a more recent origin for them in the prehistory of the separate branches. As will be seen below, the simple thematic subjunctive is less well-attested in the Celtic languages, being found in only a handful of formations, and the long-vowel subjunctive is entirely absent.

Despite the uncertainty about the origins of thematic subjunctive, the morpheme occurs unambiguously in Indo-Iranian, Greek, Celtic (e.g. OIr. 3sg. subj. *beith* < **b^huh_x-e-ti*) and Italic (e.g. Lat. 3sg. fut. *erit* < **h₁és-e-t(i)*; *amābit* < Proto-Italic **-βueti* < PIE **b^huh_x-e-ti*), and perhaps also in Albanian (Tichy 2006b:2–3 n.5; Orel 2000:212).⁴ Its existence has also been suggested in Phrygian, but the highly fragmentary nature of this language makes its testimony less reliable than that of other branches. The existence of this morpheme and morphosyntactic category in the parent language has consequently been a common assumption since at least the first volume of Delbrück’s *Syntaktische Forschungen* (1871), and is still found in modern handbooks of Indo-European linguistics (e.g. Fortson 2010:§5.55).

1.2.1 Terminology

Before proceeding, for the sake of clarity it is necessary to define the essential terminology to be used in this work.

³ Greek 3sg. primary -ει is itself problematic. Willi (2018:6–7) suggests that it is a result of “prevocalic sentence sandhi”, with **-e-ti V-* > **-e-t̥i V-* > **-e-t̥i V-*. Loss of final stops then reduced **-e-t̥i* > **-e̥i*, with “its palatal feature [being] retained and reported onto the preceding vowel”. This is quite an ad hoc explanation, however, since there is little other evidence of such sentence sandhi phenomena in Greek, nor of transfer of consonantal palatal quality to a preceding vowel. It might be better to see -ει as a remodelling based on 3sg. secondary -ε < **-et*.

⁴ Since Albanian is attested much later than the other four branches, and it has been observed that it shares a considerable number of isoglosses with Greek in its verbal system (Schumacher, Matzinger, and Adaktylos 2013:49), indicating that it split from PIE at a similar time or underwent a period of common development with Greek, it seems safe to assume that its evidence is largely subordinate to that of the earlier attested languages, and brings little to the question of whether the thematic subjunctive was a feature of the earliest stages of PIE we can reconstruct.

- **Proto-Indo-European** (PIE) will be taken to mean the stage of the prehistory of the Indo-European languages before any of those attested separated from the speech group.
 - Occasionally, forms will be reconstructed as if for PIE, purely to demonstrate the etymological relations of the individual components of an attested form. These will be described as Quasi-PIE (QPIE).
- **Proto-Celtic** (PC) refers to the ancestor of the attested Celtic languages. It is distinguished by a number of phonological developments from PIE, most notably **Ps*, **Ks* > **χs*, **Ts* > **tʰ*; **p* > **φ* > *∅*; **ē* > **ī*; **ō* > **ū* in final syllables, **ā* elsewhere (cf. Stifter 2017).
 - **Insular Celtic** is taken to refer to the Celtic languages spoken in the British Isles in the mediaeval period. The term is used purely as a geographical designation, without meaning to imply that there was a Proto-Insular-Celtic sub-node in the Celtic family tree. The phylogeny of Celtic is a complicated topic (see Sims-Williams 2007 for a good summary of the problem), as is shown by the mutually contradictory family trees proposed in the scholarship (e.g. McCone 1996b:104; Schmidt 2001b:598). I am personally of the opinion that our state of knowledge of the Continental Celtic languages is simply not yet sufficient to make accurate statements about their place in the family tree or their affiliations with the Insular Celtic languages.
 - **Continental Celtic** is similarly taken to refer to the ancient Celtic languages of mainland Europe, again without phylogenetic implications.
- **Subjunctive** refers to the verbal morphological category. In Proto-Indo-European it is characterised by the suffix **-e/o-*, which underlies categories of the same name in Indo-Iranian, Greek, and Celtic, and, in Italic, the future tense. In the Celtic languages, the category subjunctive is characterised by a number of exponents, broadly divisible into *s*-subjunctives, *a*-subjunctives, and thematic subjunctives. The interrelationships between and origins of these categories is the principal point of investigation of this work.
 - Forms not derived from the **-e/o-* morpheme, which are descriptively given the name ‘subjunctive’ in the grammatical traditions of their respective languages, e.g. the Latin *ā*-subjunctive, the Armenian *ic*-subjunctive, will be qualified with reference to their language and, where possible, to their etymological source.
- **Root** refers to the lexical core of a verb or noun in Proto-Indo-European and its daughter languages, e.g. **h₁es-*, ‘be’, **b^her-*, ‘bear’. PIE roots are largely reconstructed and glossed as in *LIV*², or *IEW* if they are missing from *LIV*².
- **Stem** refers to a form derived from the root by the addition of a derivational suffix, e.g. *s*-aorist **deuk-s-* to root **deuk-*, thematic subjunctive **h₁es-e/o-* to **h₁es-*. It appears that

more than one derivational suffix can be appended to a root, e.g. subjunctive to thematic present stem $*b^her\text{-}e/o\text{-}e/o\text{-}$ > $*b^her\text{-}\bar{e}/\bar{o}\text{-}$.

1.3 Morphology

1.3.1 Form and Formation

The formation of the thematic subjunctive given above might be considered the ‘standard definition’, and is given in many handbooks of Indo-European (e.g. Beekes 2011:274; Clackson 2007:154–55). There remains some uncertainty, however, concerning both the precise form of the subjunctive morpheme in Proto-Indo-European and the way in which the subjunctive was formed in the parent language. In particular, it is still disputed as to which verbal stems could form subjunctives, and which inflectional endings these subjunctives would have taken. As will be seen in the discussion of the Celtic material, many of these issues pertain not just to Proto-Indo-European, but also to Proto-Celtic and the individual Celtic languages, so they are worth surveying here.

1.3.1.1 Form of the Morpheme

The form of the subjunctive morpheme as $*\text{-}e/o\text{-}$ has been called into question particularly by Tichy’s observation (2002:202–3), building on Monna (1978:101–4), that in Avestan the long-vowel thematic subjunctive often scans as disyllabic, e.g. *pa^tišāt*, ‘will restore’, where *-āt* scans as *-a’at*. This has led her to propose that the subjunctive suffix for Proto-Indo-European was not in fact $*\text{-}e/o\text{-}$ but rather $*\text{-}h_1e/o\text{-}$. Dahl (2005:3) suggests that if this were the case, it would indicate a ‘very ancient origin indeed’ for the subjunctive, and further notes that it would divorce the subjunctive from the thematic present (2013:412). Avoiding separating the two formations should not in itself be a reason to oppose Tichy’s theory; it is not certain that they derive from the same form, and to use this as a basis to argue against the form $*\text{-}h_1e/o\text{-}$ consequently risks circularity. Dahl’s main objection (2013:412–13) that the evidence of Gathic Avestan alone is a “rather shaky basis for the postulation of a separate subjunctive suffix” also seems insufficient, as it dismisses rather than trying to explain the phenomenon.

There are reasons, however, to question the identification of the suffix as $*\text{-}h_1e/o\text{-}$. Beekes (1981a:59–62) suggests that the hiatus may have been introduced analogically, through the reintroduction of the stem-vowel in the subjunctive of thematic verbs, although in doing so he only treats the evidence of the 1sg. middle forms. It is also possible that the subjunctive morpheme underwent reanalysis in Avestan, from $*\text{-}e/o\text{-}$ > $*\text{-}a\text{-}$ → $*\text{-}Ha\text{-}$, which would result in the observed hiatus. A candidate for the source of the introduction of this laryngeal would seem to be the short-vowel subjunctives of athematic verbs, more specifically those of roots which end in a laryngeal, e.g. Av. *zā-* ‘leave behind’ < PIr. $*zaH\text{-}$ < PIE $\hat{g}^heh_1\text{-}$ (Cheung 2007:461). The fact that over

half of the subjunctives found in the Gathas are either those of athematic presents or root-aorists (Beekes 1988:157), meaning that the thematic vowel would have often directly followed the root-final consonant, perhaps makes this a more viable option than projecting a suffix $*-h_1e/o-$ into Proto-Indo-European, although such an explanation also requires that there be a significant number of athematic presents and root-aorists for *set*-roots in Avestan.

As the circumstances in which a suffix $*-h_1e/o-$ might have a distinct reflex from $*-e/o-$ are very limited in Celtic,⁵ the data discussed here have little bearing on the question of whether Tichy's reconstruction is valid. Similarly, her theory has little to offer any analysis of the Celtic data.

1.3.1.2 Inflectional Endings

The evidence from Indo-Iranian has historically carried great importance in the question of whether the Proto-Indo-European subjunctive should be reconstructed with primary or secondary endings. The importance of this problem has increased with the recent trend in scholarship towards proposing an original identity between the subjunctive and the thematic present (Bozzone 2012; E. Dahl 2013): if the subjunctive was originally a present form, one would expect it to exhibit primary endings, so any evidence that it took secondary endings calls this theory into question. This is a problem which has long plagued scholarship of Indo-Iranian, with attention being drawn to it at least as early as Renou (1932:5): "...il [le subjonctif] reçoit tantôt les désinences primaires, comme le présent, tantôt les secondaires, comme l'optatif." The problem is not limited to Indo-Iranian, since there is considerable variation between the endings attested in the other descendants of the PIE subjunctive.

Vedic and Avestan show the mixture of primary and secondary endings described by Renou, and a similar situation seems to exist in Italic. Old Latin *esed* (*CIL* I² 1) – often taken as the ancestor of Classical *erit* – apparently points towards a Proto-Indo-European secondary ending $*h_1és-e-t$, as PIE $*-ti >$ OLat. $-t$ and PIE $*-t >$ OLat. $-d$. This form could, however, simply be a 3sg. impf. subj. $*essed$, with the secondary ending expected in an imperfect form. Old Latin orthography routinely does not distinguish single and geminate consonants (Clackson and Horrocks 2007:96), and the context is so fragmentary that it is unclear whether a future indicative or imperfect subjunctive reading is more appropriate. Elsewhere in Italic, the Osco-Umbrian future tense seems to reflect the *s*-aorist subjunctive, e.g. 3pl. fut. Osc. *centsazet*, 'they will assess', **fu^rent**, 'they will be' $<$ $*-senti <$ $*-se-nti$. Such forms require a primary ending, at least in Proto-Sabellic, since a secondary

⁵ Probably only in roots with final $*e_i-$, where $*e_i-h_1e/o-$ may have led to PC $*e_ih_1e/o-$ (Zair 2012a:217–18). As will be seen throughout the work, most subjunctives in Celtic have the morpheme $*-se/o-$, which, under Tichy's reconstruction, would presumably be PIE $*-s-h_1e/o-$ $>$ PC $*-se/o-$. The chances of finding a reflex of $*-h_1e/o-$ in Celtic are therefore slim.

ending would yield Oscan **censazens/*censazes*, Umbrian **furens/*fures* (Buck 1928:151–52). Greek, which preserves the distinction between primary and secondary endings more faithfully than Italic, favours the synchronic primary endings in the subjunctive. Although some of the endings are formally somewhat difficult to reconcile with the traditionally reconstructed primary verbal endings, the Homeric 3sg. long-vowel subjunctive ending -ησι (Duhoux 2000:479), e.g. φέρησι (Od.19.111),⁶ derives regularly from PIE **-e-e-ti*. It is also possible, however, to derive the more common 3sg. subjunctive ending, -η (Attic -η), from the PIE secondary ending, as **-e-e-t* would regularly yield the form -η found outside of Attic (Duhoux 2000:478), although this only further complicates the reconstruction of the inflectional endings.⁷

The Celtic evidence for the choice of endings is also somewhat ambiguous. The syncope patterns of OIr. *s*-subjunctive forms, for instance, would seem to indicate that primary endings were used.⁸ The picture in the Insular Celtic languages is obscured by the fact that the inherited system of primary and secondary endings was replaced by the system of absolute and conjunct inflection, meaning that almost all verbal forms received endings formally identical with both the primary and secondary endings inherited from Proto-Indo-European. This can be seen in the fact that the OIr. preterite, which often reflects the PIE aorist, has both absolute and conjunct forms, e.g. 3sg. abs. *scarais* < Pre-Irish **skaratsi*⁹ ← PC **skarast* < PIE **(s)kerh_x-s-t*; cf. conj. *-scar*, ‘parted’ < **(s)kerh_x-s-t* regularly. Consequently, it is possible that the subjunctives of Irish inherited secondary endings and received seemingly primary endings as a result of the development of the absolute/conjunct system.

Continental Celtic, which does not have an absolute/conjunct system, might be more revealing than the Insular Celtic languages. Forms such as Gaulish *buet(i)*, discussed further in chapters 3

⁶ See 1.2 regarding *ι*-subscript.

⁷ The deeper problem here is that of the prehistory of the Greek 3sg. primary thematic ending: although Kortlandt (1979a:45–46; 1979b:60–62) reconstructs a PIE 3sg. primary thematic ending **-e* based on Greek *-ει* < **-e-i*, Lithuanian *-a* < **-o* (← replacement of 3sg. **-e* by 3pl. **-o*), OIr. conjunct *·beir*, allegedly < **bere*, his Celtic evidence can also reflect **-e-ti*. This ending is found in Celtiberian and Gaulish and underlies the OIr. absolute 3sg., implying that the ending **-ti* was either inherited for thematic verbs from Proto-Indo-European or generalised in Proto-Celtic prior to the development of the absolute/conjunct system to which he attributes the ‘preservation’ of earlier **-e*. This leaves just the Greek and Baltic evidence, which could be independent developments in these branches.

⁸ i.e. Absolute: Proto-Celtic 1pl. **g^uéd-s-o-mosi+* > Proto-Irish **gessoμohi* > OIr. *gesmi*, ‘we would pray’ (final syllable protected from *i*-apocope by an enclitic (+) following Cowgill (1975a; 1975b)); Conjunct: PC **g^uéd-s-o-mosi* > PIr. **gessamah* > OIr. *·gessam* (final syllable apocoped due to lack of enclitic, but thematic vowel preserved).

⁹ Presumably prior to **Vt^s#* > **Vs#* > **Vh#*.

and 4, could show either primary or secondary endings, depending on how the enclitic elements attached to them are interpreted. Lambert (2003:159), for example, treats the endings as secondary, with the segmentation *buet-id*, while McCone (1991:chap. 6) interprets the form as *bueti-d*, with the primary ending. A new interpretation *buetid* and similar forms will be suggested below (3.1.2.1.5). Importantly, there do appear to be a handful of subjunctives in Gaulish which exhibit primary endings, and these forms are crucial to the reconstruction of the Proto-Celtic subjunctive. The attested subjunctives in Celtiberian also appear to have primary endings, corroborating the Gaulish evidence. As will be seen below (3.2), however, the nature of the Celtiberian script has led some scholars to doubt the identification of these forms as bearing a primary ending. In 3.2.2.2 it will be argued that these forms should be taken at face value, and that they attest primary endings.

Beekes (1981b) surveys the evidence for the endings in Indo-Iranian, and concludes that the subjunctive endings must be derived from the Leiden reconstruction of the thematic primary endings,¹⁰ having been recharacterised with secondary endings when the primary endings of the thematic conjugation became morphologically opaque in Indo-Iranian due to regular phonological developments. He suggests that the evidence from Italic for secondary endings, e.g. OLat. *esed*, corroborates this (1981b:22), as they also can be interpreted as a recharacterisation. Quite apart from the uncertainty around the morphological analysis of OLat. *esed*, this theory is made somewhat less tenable by the fact that only two of the Indo-Iranian subjunctive endings, 1sg. **-ā(ni)* and 2pl. **-atha*, can be readily derived from this set of endings, the latter of which only if one accepts that the sequence **-th₁-* regularly produces Proto-Indo-Iranian **th*, for which there is little positive evidence. Although recharacterisation of endings has typological parallels,¹¹ the evidence of two persons of the Indo-Iranian subjunctive seems an unstable foundation on which to base a reconstructed subjunctive paradigm with these endings. Furthermore, there is little, if any, evidence for such endings in the Celtic data. Consequently, the primary and secondary thematic endings for PIE will be taken essentially following Clackson (2007:127), while the ending set reconstructed for Proto-Celtic by Stüber (2017:1211–12) will be used for Celtic-internal developments.

¹⁰ i.e. sg. 1. **-oh_x*, 2. **-eh₁i*, 3. **-e*; pl. 1. **-omom*, 2. **-eth₁e*, 3. **-o* (Beekes 2011:274).

¹¹ Cf. extension of athematic primary 1sg. *-μ* to the Attic thematic optative (Beekes 1981b:n. 9), replacing *-οα* < **-o-ih₁-ṃ*, preserved in Aeolic (Kortlandt 1992).

Table 1-2 PIE and Proto-Celtic thematic active endings

PIE	Primary	Secondary	PC	Primary	Secondary ¹²
1sg.	*-ō < *-oH	*-om	1sg.	*-ū	*-om?
2sg.	*-esi	*-es	2sg.	*-esi	*-es?
3sg.	*-eti	*-et (*-[ed]?)	3sg.	*-eti	*-et (*-[ed]?)
1pl.	*-ome	*-ome	1pl.	*-omosi	*-omos?
2pl.	*-ete	*-ete	2pl.	*-etesi	*-ete(s)?
3pl.	*-onti	*-ont	3pl.	*-onti	*-ont

1.3.1.3 Stem Formation

There is considerable variation among Greek, Indo-Iranian, Italic and Celtic as to the types of verbal stem that can form subjunctives. That being said, the attested formations fall into two broad categories: root subjunctives, where the thematic vowel *-e/o- is added directly to the verbal root; and derived subjunctives, where it is added to a derived verbal stem. The former type is exemplified by Vedic *ásati*, Latin *erit* ‘will/would be’ < *h₁és-e-ti; the latter by Vedic *yunájat*, ‘will/would yoke’ < *ǵu-né-g-e-t(i). Alongside subjunctives from present stems, there are those apparently formed to the aorist, e.g. *vákṣat*, ‘will/would drive’ < *uég^h-s-e-t(i) (*s*-aorist *ávāṭ*, Lat. *uēxit*); *kárat*, ‘will/would do’ ← *cárat(i) < *k^wér-e-t(i) (root-aorist *ákar*). The *ásati/kárat* type has sometimes been taken as evidence that the root-subjunctive was the original formation, and derived subjunctives a later development. For example, Beekes (2011:274–75) claims that Vedic *kárat* and OLat. *tagam* ‘I would touch’ (pres. *tango*) “suggest that the subjunctive was originally formed from the root, not from the present or aorist stem”. These formations are not cognate, however: the Latin *ā*-subjunctive is of an uncertain origin, unlike the thematic subjunctive *kárat*. Nonetheless, the idea that the subjunctive originated as a primary derivational suffix is appealing in principle, particularly in the light of typological insights into how modal categories develop (1.4.3). Root-subjunctives comparable to *kárat* also exist in Greek, but often with a \emptyset -grade root, rather than the expected *e*-grade, e.g. ἵομεν, ‘we will/may go’ (pres. ἵμεν) ← *ἕομεν < *h₁éj-o-me-. If the Greek evidence for \emptyset -grade in the subjunctive is taken as an innovation, it is notable that subjunctives otherwise generally display *e*-grade in the syllable preceding the thematic vowel, regardless of the stem-type. For present subjunctives, e.g. *yunájat*, and root-subjunctives, e.g. *ásati*, *kárat*, this resembles the strong stem variant, but for the *s*-aorist subjunctive, e.g. *stoṣat*,

¹² Evidence is scarce for Proto-Celtic secondary endings. 3sg. *-et may be attested in Celtiberian **kombalkez**, **tekez**, with <ez> = /eð/ < *-et; 3pl. **atibion** < *ati-bijont. 2pl. *-ete(s) might be seen in Gaulish impv. (?) **ibetis** (L-132).

‘will/would praise’, it coincides with the weak stem, cf. 1sg. aor. mid. *astoṣi*, ‘I have praised’ ← **stéu-s-h₂e*. This implies that if the subjunctive originated as a primary stem formant and then spread to derived tense-aspect stems, it might have done so prior to the *Aufstufung* of the *s*-aorist indicative active singular, since otherwise we could expect to find Vedic **stauṣat*, on the analogy **k^uér-t* : **stéu-s-t* :: **k^uér-e-t(i)* : *X* → **stéu-s-et(i)*.

As will be seen in the following chapters, much of the Celtic evidence for the subjunctive is generally seen as reflecting the *s*-aorist subjunctive. The importance of the Celtic evidence has been underestimated in previous scholarship due to its relatively late attestation, but in fact Celtic is the only branch other than Indo-Iranian to preserve both \bar{e}/e -ablaut in the *s*-aorist indicative (cf. OIr. *birt* ← **b^hēr-s-t*, *bertatar* ← **b^her-s-ent*) and invariant *e*-grade in the *s*-subjunctive, thus providing valuable information for the reconstruction of the Proto-Indo-European situation. In contrast, Greek generalises *e*-grade in the indicative, e.g. *ἔδειξα* ← **dēik-s-ṃ*, and largely replaces the short-vowel *s*-aorist subjunctive with a long-vowel formation by the time of our earliest texts. Although Latin attests the \bar{e} -grade *s*-aorist (e.g. *uēxit* < **uēg^h-s-*), the corresponding subjunctive is all but absent, being perhaps restricted to isolated Old Latin future tense forms, e.g. *faxō*, ‘I will do’; *capsō*, ‘I will take’. Disagreement persists as to whether these should be treated as *s*-aorist subjunctives or as desiderative formations. Formally and etymologically, they make a poor fit for either category for a number of reasons, summarised by de Melo (2007:306ff.). For example, *faxō* represents a \emptyset -grade **d^hh₁k-s-*, a gradation not found in any part of the *s*-aorist. De Melo ultimately concludes that these forms must represent heavily remodelled aorist subjunctives. Due to this remodelling, however, none of the attested OLat. *s*-futures can be trusted to reflect the Proto-Indo-European situation. Consequently, only Celtic and Indo-Iranian can inform the reconstruction of the ablaut of the PIE *s*-aorist subjunctive.

Alongside subjunctives formed to athematic stems, Greek, Indo-Iranian and Italic all attest long-vowel subjunctives from thematic stems, e.g. **b^hér-e-e-t(i)* > **b^hér-ē-t(i)* > Ved. *bhárāti*, Homeric Gk. *φέρησι*; **léǵ-e-e-t(i)* > *λέγει*, Lat. *leget*. Moreover, this is the productive formation in Greek and Indo-Iranian. The fact that the subjunctive’s productivity is associated with the long-vowel formation may suggest that this type was a relatively recent development, possibly occurring just prior to the separation of these three branches from each other. This formation is apparently absent from Celtic, which could imply either that it was lost in Proto-Celtic, possibly due to phonological developments, or that Celtic split from the other three branches prior to its development.

In contrast with Greek, Indo-Iranian, and Italic, in some respects Celtic presents a remarkably simple system. As chapters 2 and 4 will show, thematic subjunctive forms in Celtic are largely built to inherited aorist stems, most notably the *s*-aorist. Both the mediaeval and ancient

languages also attest a few root-subjunctives, which will be discussed as they are encountered in the data. Although generally analysed diachronically as aorist subjunctives, both the *s*-subjunctive and the root-subjunctive function as part of the present tense system in Insular Celtic. Whether they function similarly in Continental Celtic, indicating that this was a Proto-Celtic development, will be investigated in chapter 4, insofar as the evidence permits. A small number of forms in Gaulish have been suggested by Lambert (2003:64–65) to be present subjunctives, e.g. **buetid**, '(que) soit'. These will be discussed in greater detail below (4.1.3). As will be seen, the general lack of subjunctives built to other stem-types in Celtic might be attributed to Celtic-internal phonological developments, which would have rendered such formations morphologically obscure. This will particularly be discussed in chapter 5, where the Proto-Celtic subjunctive will be reconstructed and its own prehistory considered.

1.3.2 Attestation and Distribution

Although thematic subjunctives are generally treated as an established feature of the Proto-Indo-European verbal system, it must be noted that they are conspicuously absent, or at least not at all clearly present, in several Indo-European branches, notably Germanic, Balto-Slavic,¹³ Armenian, Tocharian and Anatolian. The first four of these are attested rather later than the majority of those that preserve the thematic subjunctive, and its absence might therefore be attributed to loss, or, as has sometimes been suggested in the case of Germanic and Balto-Slavic, prehistoric replacement by the optative (thus Hahn 1953:n. 4). Nonetheless, attempts have been made to find evidence for the Indo-European subjunctive in these branches to supplement the firm attestations in Greek, Indo-Iranian, Italic and Celtic discussed above. These are laid out in the following table, ahead of further discussion with references below.

¹³ Tichy's brief suggestion (2006b:2–3 fn. 5), without citations or exposition, that the OCS 3pl. impv. continues the PIE subjunctive, seems improbable. The rest of the imperative (except the 1sg.) reflects the PIE optative, e.g. 2/3sg. *знаи*, 'know' < Quasi-PIE **ǵnéh₃-ih₁-s/t*, with levelling of root and suffix vocalisms. The 1sg. and 3pl. are formed with the present indicative and the conjunction *да*, of disputed origin, e.g. *да придѣтъ*, 'let them come'. Since this is the productive formation, demonstrated by its gradual extension into the 3sg., it seems unlikely that a relic of the subjunctive be preserved here (cf. Lunt 1974:85, 143–44).

Table 1-3 Suggested relic-forms of the thematic subjunctive in other Indo-European branches

Branch	Form	Description
Anatolian	' <i>si</i> -imperative' e.g. Hittite <i>paḥši</i> , 'protect!'	Supposedly derived by inner-PIE haplology of the 2sg. subj. of <i>s</i> -presents and <i>s</i> -aorists, i.e. <i>*-se-si</i> > <i>*-si</i>
Tocharian	' <i>si</i> -imperative' e.g. TA <i>pä-klyoṣ</i> , TB <i>pä-klyauṣ</i> , 'hear!'	As above, supposedly < <i>*-si</i> < <i>*-se-si</i> , from the subjunctive of a 'Narten' <i>s</i> -present <i>*klēus-</i> , and cognate with the Vedic imperative <i>śróṣi</i> .
	Class VIII ' <i>s</i> -presents' e.g. TA <i>prakāṣ</i> , TB <i>prekṣām</i> , '(s)he asks'	Apparently reflect a thematic inflection in <i>*-se-</i> , reminiscent of the <i>s</i> -aorist subjunctive, and are claimed to have been reanalysed as present tenses due to functional overlap.
Germanic	A few thematic present stems: e.g. Goth. <i>qimip</i> '(s)he comes' < PGmc. <i>k^uimiđi</i> , < <i>*g^uem-e-ti</i>	Assumed to be root-aorist subjunctives due to their thematic inflection, since these roots rarely form simple thematic presents in other branches.

1.3.2.1 Anatolian

A serious impediment to reconstructing the subjunctive as a Proto-Indo-European category is its absence in Anatolian, the earliest attested Indo-European subgroup, often considered most archaic in its verbal system. There have been two main approaches to accounting for this inconsistency: first, the theory that Proto-Anatolian had separated from Proto-Indo-European prior to the development of the subjunctive (the 'Indo-Hittite' hypothesis; thus Hahn 1953:52–58); second, that the subjunctive – alongside the optative – was lost in Proto-Anatolian, possibly due to a "fundamental restructuring of the verbal system in this branch" (Tichy 2006a:97–98). Tichy's explanation is difficult to accept on the grounds of the amount of morphological material that would have to be lost without leaving a trace in the language.

It is also noteworthy that, alongside the absence of the subjunctive, Anatolian attests not a single simple thematic present (Ringe 1998:34–35), making it effectively a test case for the hypotheses of Bozzone (2012) and Dahl (2005; 2013) that the subjunctive developed from the thematic present. If thematic subjunctives could be identified in Anatolian, it might imply that the thematic present had already become grammaticalised as a subjunctive prior to the separation of Proto-Anatolian. This is difficult to reconcile with this morpheme's productivity as a present tense marker in other Indo-European languages, however. On the other hand, the lack of both

categories may simply reflect that Anatolian separated from Proto-Indo-European before the thematic present tense developed, let alone the thematic subjunctive.

Perhaps the most remarkable approach to the problem of the subjunctive in Anatolian, however, is that of Jasanoff (2003:182–85; 2012a), who proposes that the subjunctive did in fact exist in the stage of Proto-Indo-European which produced Proto-Anatolian. He suggests that the subjunctive is preserved in the form of synchronically irregular imperatives with the ending *-ši* in Hittite, such as *paḫši*, ‘protect!’, which he derives from an *s*-present subjunctive **péh₂s-e-si*, and compares with other imperative formations in Vedic, OIr. and Tocharian. This analysis builds upon Szemerényi’s idea (1966) that Vedic imperatives such as *śróṣi*, ‘hear!’, are derived from haplologised subjunctives as a development within Indo-Iranian, i.e. PIr **sráusasi* > **sráusi*. Notably for Jasanoff’s theory, a number of these imperatives – including *śróṣi* – are from roots which do not form *s*-aorists in Vedic, leading him to suggest that his *si*-imperatives may reflect haplologised subjunctives of “any stem ending in **-s-*” (2012a:117). Jasanoff attributes the forms in all four branches – Anatolian, Tocharian, Indo-Iranian, and Celtic – to such haplologised subjunctives, and suggests they were reinterpreted as imperatives within Proto-Indo-European, not merely in Indo-Iranian. Although this theory can be supported by the fact that imperative forms are cross-linguistically prone to irregular syncope and apocope – Jasanoff (1986:134) gives English *gimme* and *c’mere* as examples – there are nonetheless significant problems with this interpretation. The Vedic and OIr. data are supported by the existence of the *s*-aorist and its subjunctive in these branches, and even here the suggestion that such imperatives are to be derived from the subjunctive is not entirely uncontroversial. The OIr. forms are somewhat unclear, since prehistoric phonological developments leave even the root unclear in some cases, let alone any suffix or desinence. Nonetheless, Jasanoff’s *si*-imperative does appear to hold for both Vedic and OIr., e.g. *at-ré* < **ad-réh(h)* < **ad-réss* < **ad-réssi* < **ad-réxsi* < **ad-rég-si*, so a *si*-imperative might reasonably be postulated for the period of Proto-Indo-European which produced these branches. It must nevertheless be borne in mind that haplology within the imperative might have occurred independently in Celtic and Indo-Iranian, since it is not paralleled in, for example, Greek or Italic.

Claiming a *si*-imperative for Hittite and Tocharian, however, is more complicated. These forms would be the only trace of the subjunctive in Anatolian, and one of very few possible attestations in Tocharian (1.3.2.2). Jasanoff’s verbs which form *si*-imperatives in Hittite are a very heterogeneous group, by his own admission (2003:135–36): “The principle that determined whether a given *s*-present would conform to the Narten, *molō-*, thematic, *je/o-*, or reduplicated type in the parent language is not known”. Furthermore, Jasanoff’s derivation of the Hittite *si*-imperative is so circuitous as to verge on the incredible, resting on the 3sg. middle imperative

nešhut, ‘turn’, which he claims (2003:184) – based on its root vocalism – is a “mechanical medialization” of an unattested ‘Narten’ *si*-imperative **neši*. Against the reconstruction of a Proto-Anatolian *si*-imperative, it can be shown that there are imperatives for both *mi*- and *hi*-conjugation verbs in Hittite which end in *-i*, but not *-ši*, e.g. *kueni*, ‘strike!’ < PIE **g^{hu}en-*. Hittite *kuenzi* is an athematic root present, so the *-i* ending cannot belong to the verbal stem. Moreover, it has no clearly earlier allomorph (*pace* Jasanoff 2003:183). The same might apply to forms such as *paḥši* – the root of which is synchronically, after all, *paḥš-* (Kloekhorst 2008:611–12) – or could have provided an analogical source for the extension of this ending to verbs such as *paḥš-*.¹⁴ As will be seen below, Jasanoff’s evidence for the *si*-imperative in Tocharian also leaves room for doubt that this category should be reconstructed for the parent language as a whole.

1.3.2.2 Tocharian

Jasanoff suggests that the Indo-European subjunctive survives in Tocharian in two guises (2003:174ff.). The first of these is the imperative of the verb ‘to hear’, TA *pä-klyoṣ*, TB *pä-klyauṣ*, which he claims forms a direct word-equation with the Vedic *śróṣi*. Malzahn (2010:511–12) briefly comments on the synchronic opacity of these imperatives, but does not provide her own interpretation of the forms. Nonetheless, she does make the important observation that Tocharian B *-klyauṣ* requires PIE **klēu-*. This is incompatible with Vedic *śróṣi*, which must reflect Quasi-PIE **klēu-si*, as **klēu-si* > **śráuṣi*. The word-equation Jasanoff sets out between Vedic *śróṣi* and the Tocharian forms consequently turns out to be less compelling than he suggests, and it is perhaps better to seek a Tocharian-internal explanation of this form, although this is not the place to seek such an explanation.

The other forms in Tocharian which are supposed to preserve the subjunctive are a handful of Class VIII present stems of transitive verbs (2003:180–82), which he derives from the subjunctive of the “presigmatic aorist” of his *h₂e*-conjugation. The form of this present tense marker is TA *-ṣä/sa-*, TB *-ṣä/se-* < PT **-ṣə/se-*, allegedly < PIE **-s^e/o-*. Although regular sound change would produce such forms in Tocharian from the PIE form suggested, there remain difficulties with such a theory. Jasanoff’s aorist paradigm (2003, 196) is said to contain **-s-* throughout its subjunctive and indicative middle forms, but had no **-s-* in the optative, or in the indicative active other than in the 3sg. It also shows a startling variety of ablaut grades, even in the indicative. He explains this by suggesting that this was a suppletive paradigm, with its 3sg. indicative having been adopted

¹⁴ It is also uncertain that forms such as *paḥši* are older than the *kueni* type. The ‘oldest’ attestation of *paḥši* is in a New Script copy of an Old Hittite text, which could therefore be a scribal modernisation, particularly given that the oldest attestations of this root show it inflecting as a deponent verb. Otherwise, both types of imperative are only securely dateable to the Middle Hittite period (Kloekhorst 2008 s.vv. *kuen-*, *paḥš-*).

from the imperfect or injunctive of an *s*-present, which is in itself a somewhat opaque category. This seems intrinsically unlikely, and the identification of the Tocharian *s*-present with the *s*-aorist subjunctive has validly been questioned (e.g. Peyrot 2013:398). Moreover, typological studies (e.g. Bybee et al. 1994) suggest that the development subjunctive > present is uncommon cross-linguistically, which should prompt scepticism.

More critically, there is a serious formal problem with Jasanoff's derivation of the Class VIII present from a PIE "presigmatic aorist" subjunctive, namely that the Class VIII present reflects \emptyset -grade root vocalism, where the subjunctive would show *e*-grade, as the lack of root-initial palatalisation in e.g. TB *kauštär*, 2pl. mid. of *kau-*, 'kill' displays. These verbal stems have proven resistant to diachronic analysis, and Malzahn (2010:431) suggests that "the *s*-present is indeed a completely inner-Tocharian formation based on the *s*-preterit", based on her analysis of the forms and the debate on their origins. A Tocharian-internal explanation of these forms appears preferable, therefore. Peyrot (2013:515–24) offers such an explanation, suggesting that Class VIII presents should be derived within Tocharian from $*-sk^e/o-$ present formations to root-final velars, with reduction of $*-ksk-$ > $*-ks-$. Since \emptyset -grade is expected in $*-sk^e/o-$ presents (cf. Ved. *gáčhati*, Gr. impv. $\beta\acute{\alpha}\sigma\kappa\epsilon$ < $*g^u\eta-ske-$), this derivation explains the lack of root-initial palatalisation in the Class VIII presents, and connects them to a present-tense formation already attested in Tocharian (in the Class IX present-subjunctive, cf. Malzahn 2010:433–66; Peyrot 2013:516–19). Peyrot's derivation is now accepted by Kim (2018), who previously subscribed to Jasanoff's treatment of the Class VIII presents as demodalised subjunctives.

Although Tocharian has a category labelled 'subjunctive', which many have attempted to derive from the Proto-Indo-European category, the evidence that Tocharian inherited the subjunctive is rather meagre. As Peyrot (2013:5–7) notes, there are several difficulties in reconciling the form of the Tocharian subjunctive to the Proto-Indo-European thematic subjunctive. Not least of these is the fact that the Tocharian subjunctive has several allomorphs, of which only one can be readily identified with the Proto-Indo-European subjunctive, namely Class II - TA $-y\ddot{a}/a-$, TB $-y\ddot{a}/e-$ < PT $*-y\ddot{a}/e-$ < PIE $*-e/o-$. This class possesses one of the better candidates for a possible inherited Proto-Indo-European subjunctive in Tocharian, namely TA *śmāš*, TB *śämt*, 'you will come' < PT $*śam-y\ddot{a}/e-$ < PIE $*g^uem-e/o-$ (Kim 2007:190), which is cognate with Vedic *gámati*. Kim points out, however, that Tocharian attests some apparently simple thematic indicative stems, alongside these subjunctives (id.:193).

In fact, many of the subjunctive morphemes found in Tocharian appear to originate from Proto-Indo-European present tense stems. It may, therefore, accord better with the observable facts of how Tocharian developed – as well as typological observations (Bybee et al. 1994) that development from present indicative to subjunctive is more common than its opposite – if Class

II subjunctives were explained as simple thematic present formations which have undergone the cross-linguistically common development of reanalysis as subjunctive stems. It would consequently appear that Tocharian, like Anatolian, presents little evidence of the Indo-European subjunctive.

1.3.2.3 Germanic

Several forms in Germanic have also been suggested as deriving from Proto-Indo-European root-aorist subjunctives. This idea originated with Hoffmann (1955), who suggested that Vedic *gámati* and Proto-Germanic present **k^uimiđi* both reflect the Proto-Indo-European root-aorist subjunctive **g^uem-e-ti*. More recently, Ringe has adopted this idea (2006:160–61), arguing for a root-aorist subjunctive origin for a number of verbs which attest thematic presents in Germanic, but nasal-infixed or **-sk^e/o-*-suffixed presents in other Indo-European branches. Ringe's theory is built upon only five examples where Germanic attests a thematic form while other IE branches, principally Indo-Iranian, exhibit a more complex derivation: PGmc. **k^uimiđi* vs. Vedic *gácchati*, Greek *βάσκει* < **g^uṃ-sk^e-ti*; PGmc. **bītiđi*, 'bites/splits' vs. Vedic *bhinátti* < **b^hi-né-dsti*;¹⁵ PGmc. **skītiđi*, 'defecates' vs. Vedic *chinátti*, 'cuts' < **skⁱ-ne-dsti*; PGmc. **līh^uiđi*, 'leaves' vs. Vedic *riṇákti* < **li-né-k^u-ti*; PGmc. **reufiđi*, 'tears' vs. Vedic *lumpáti*, Latin *rumpit* < **(H)rump-é-ti* (possibly thematised already in PIE) < ***^(H)ru-né-p-ti*.

A major difficulty here is that root-aorist subjunctives and thematic presents are formally identical.¹⁶ More than one of the verbs cited by Ringe has a cognate thematic present, e.g. **léik^u-e/o-* > PGmc. **līh^u-i/a-*, cf. Gk. *λείπω*,¹⁷ and a cursory inspection of the lemmata in *LIV*² shows that Proto-Indo-European was seemingly quite capable of tolerating the presence of more than one present stem for many verbal roots, or at least that no single present tense stem is reconstructible for them, so it is possible that Ringe's roots simply also had thematic present forms. Proto-Germanic seems also to have experienced a period of thematisation in its verbal system (Makaev 1964:26–27). It seems unnecessary, therefore, to explain these forms as subjunctives, otherwise unattested in Germanic, when the Proto-Germanic phenomenon of thematisation of athematic verbs can explain these forms. Furthermore, evidence for the root-aorist as a category in Proto-Germanic is scarce: only these five forms can be claimed to represent the root-aorist in Germanic. It is also to be noted that the functions Ringe ascribes to the Proto-Indo-European subjunctive, namely modal and future tense (2006:160), are typologically

¹⁵ With PIE **-TT-* > **-TsT-*

¹⁶ i.e. *e*-grade root, **-e/o-* suffix.

¹⁷ Cf. McCone (1991:143) for a derivation of *λείπω* from the root-aorist subjunctive. This seems a somewhat circuitous route to the attested form.

unlikely to develop into present tenses, whereas the opposite development is cross-linguistically common (Bybee et al. 1994), casting further doubt on these forms as subjunctives.

1.3.3 Competition and Allomorphy

Alongside the thematic subjunctive, other modal suffixes have been reconstructed for Proto-Indo-European, with greater or lesser certainty. Most obviously, it existed alongside the optative, which is reconstructed for Proto-Indo-European based on evidence from Tocharian, Greek, Indo-Iranian, Balto-Slavic, Germanic and Italic. They are retained as separate categories in every branch which clearly attests both the optative and the subjunctive, indicating a functional distinction between the two categories. Although there may have been some overlap in function, as seen in their descendant categories in Greek and Indo-Iranian, the fact that both categories survive in these languages seems indicative of a distinction and corresponding lack of competition. Curiously, the Indo-European optative appears not to be preserved in Celtic, other than one or two forms suggested in Celtiberian and Gaulish, about whose interpretation there is little certainty. Reasons for its absence in Celtic will be considered as part of the reconstruction in chapter 5.

1.3.3.1 \bar{a} -subjunctive

The most pertinent to Celtic of the other possible Indo-European modal suffixes is the supposed **-eh₂-* suffix, sometimes termed the ‘ \bar{a} -modal suffix’. This suffix has been proposed as the origin of various mood and tense forms in several Indo-European branches, most notably the Italic and Celtic \bar{a} -subjunctives; the Tocharian *a*-subjunctive; and the Balto-Slavic and Tocharian *a*-preterites (Jasanoff 1983; 2009:48). Scholarship has traditionally taken the \bar{a} -subjunctive in Italic and Celtic as reflecting a ‘Proto-Italo-Celtic’ formation, perhaps even deriving from the thematic optative, due to the superficial similarity between the forms and the absence of the thematic optative in both branches. As will be seen below (2.2.2), this now seems unlikely on both phonological and morphological grounds. The insular and continental Celtic evidence for an \bar{a} -subjunctive will be discussed in detail in chapters 2 and 4. The case for an \bar{a} -subjunctive in Tocharian and Italic will briefly be assessed here, as well as the possibility of a connection with the Balto-Slavic preterite.

The position that an Indo-European **-eh₂-* suffix underlies the OIr. \bar{a} -subjunctive, the Italic \bar{a} -subjunctive, and a handful of formations in other Indo-European languages, is particularly held by Indo-Europeanists of the Harvard school (e.g. Jasanoff 1994; Fellner 2007). Jasanoff has since retracted his view that this suffix is represented by the Tocharian *a*-subjunctive (2013:nn. 4, 36), so it need not be considered any further here. He nonetheless maintains that it is valid to explain the Italic and Celtic forms in this way, as well as possibly the Balto-Slavic \bar{a} -preterite, and suggests

(2009:n. 41) that the morpheme may have “played a systematic role in the grammar of PIE prior to the creation of the classical thematic optative”. Rix (2003:11) notes that proposing an **-eh₂-* suffix is merely a description, rather than an explanation, given the impossibility of specifying semantics for this morpheme in Proto-Indo-European, and of deriving it dialectally from established Proto-Indo-European morphology. His own derivation of the Italic *ā*-subjunctive from the thematic optative **-o-ih₁-* > **-oġa-* > **-oa-* > *-ā-* (2003:10), however, is difficult to accept on phonological grounds, since **-oa-* regularly yields Latin *-ō-*, e.g. *cōgo* < **ko-ago*. To accept Rix’s etymology, an earlier Proto-Italic resolution of this hiatus to **-ā-* would have to be proposed, and assumed to predate compounds such as **ko-ago*, or at least the change **kom* > **kō* that allowed its contraction, the evidence for which Rix himself admits is lacking. It is nonetheless possible that Rix is correct to explain the Italic *ā*-subjunctive this way. McCone’s explanation (1991:95–98) of the Italic forms as reflexes of the thematic present subjunctive of laryngeal-final roots is somewhat unsatisfactory, since inherited subjunctives generally develop into future tense forms in Italic, although a paradigmatic split cannot be excluded.

There is still no real *communis opinio* on the origin of the Balto-Slavic *ā*-preterite. Rasmussen (1985) notes, however, that the Baltic *ā*-preterite appears to be the middle voice counterpart of the *ē*-preterite, shown particularly in the contrast between the transitive *ē*-preterite and intransitive *ā*-preterite of Lithuanian/Latvian *deg-*, ‘burn’. He therefore suggests that the long vowels of both preterite types are secondary developments within Balto-Slavic, with the *ē*-preterite from the thematic imperfect **-e-t*, which would have developed regularly into Proto-Balto-Slavic **-e* and been recharacterised as **-e-e* > Lith. *-ė*. The *ā*-preterite could correspondingly derive from 3sg. middle imperfect **-o-to* → **-o-t* (analogy with 3sg. active) > **-a* → **-a-a* > Lith. *-a*. Although convoluted, this derivation does account for the functional distribution of the preterite types, and avoids projecting additional morphological categories into Proto-Indo-European, and might thus be preferred for the sake of reconstructive economy.

1.3.3.2 Desiderative

The category ‘desiderative’ is often reconstructed for Proto-Indo-European, particularly on the basis of evidence from Indo-Iranian, Celtic, Greek, and Balto-Slavic. Both the form and function of this category in the parent language, however, are unclear: several variants of the suffix have been proposed, and it is uncertain whether it functioned as a highly-specialised present tense, a mood, or a future tense.

Rix (1977) reconstructed the morpheme as **-h₁s^ē/o-* on the basis of the forms of the Greek future tense, and is followed by Sihler (1995:556–58). Jasanoff (1988:232–33) suggests that there were perhaps four desiderative formations in Proto-Indo-European: full-grade root with the suffix **-sġ^ē/o-* (Vedic *dāsyāti*, ‘will give’, Lith. participle *dúosiant-*, ‘about to give’); *ø*-grade reduplicated

root with the suffix $*-s^e/o-$ (Vedic *dídṛkṣati*, ‘desires to see’, OIr. *·béla*, ‘will die’ < $*g^u i-g^u l-ǎse-ti$); full-grade root and a suffix $*-s^e/o-$, and frequent deponent inflection (πέισομαι, ‘I will suffer’ < $*k^u end^h-so-$); and the “unreduplicated athematic *s*-future of Baltic, Old Irish and Osco-Umbrian” (Lith. *duōs*, ‘will give’ < $*dō-s-t(i)$; OIr. *reiss*, ‘will run’ < $*ret-s-ti$). Other scholars have reconstructed yet more variants of this category: McCone (1991:137–38), summarising the scholarship until then, including Jasanoff, reaches a total of fourteen different proposals. Up to six of these have been accepted as being of Proto-Indo-European date in particular scholars’ accounts of their origins. Depending on one’s school of thought, any number of desiderative suffixes might be reconstructed for Proto-Indo-European, which is an unsatisfactory state of affairs, particularly given that the desiderative is “considerably more marginal” a category than, for example, the aorist or present (McCone 1991:142).

The Rix-Sihler version of the suffix is complicated by the fact that it requires an ad hoc laryngeal-deletion law $*h_1 > *∅ /T_S$ to explain the Greek sigmatic future: while $μενέω < *menēhō < *men-h_1s-oh_2$ regularly, $*k^u end^h-h_1s-o-(mai)$ would be expected to yield $^xπενθέομαι > ^xπενθοῦμαι$, through regular sound change in Greek. Sihler (1995:508) consequently claims that $*h_1$ was lost in this environment, which is difficult to falsify. There are few Indo-European roots with root-final $*h_1$, and possibly only two where it follows an obstruent, namely $*peth_1-$ and $*uēdh_1-$ (LIV²:705-6). Neither of them is entirely securely reconstructed with a laryngeal, and the only sigmatic formation attested for either is precisely a Greek desiderative for $*peth_1-$, making it very difficult to draw conclusions about the sound law’s validity. Moreover, a significant number of these Greek future tense forms can be traced back to aorist subjunctives (e.g. Bammesberger 1982:67; McCone 1991:chap. 7; Willmott 2007:77). Given that subjunctive and future forms are both formally and functionally similar in early Greek (Willmott 2007; Blankenborg 2017), it is preferable to see the Greek *e*-grade *s*-future as reflecting the *s*-aorist subjunctive, rather than accept Sihler’s laryngeal deletion law. The future in $-έω$ can then be explained as a reanalysis of the reflex of this suffix to roots with final $*l̥h_1-$ and $*Rh_1-$, i.e. PIE $*l̥/Rh_1-s^e/o-$ > Proto-Greek $*l̥/Re-h^e/o-$ → $*l̥/R-eh^e/o-$. It is conceivable that this morpheme initially competed with $*-ah^e/o-$ ← $*h_2-s^e/o-$ and $*-oh^e/o-$ ← $*h_3-s^e/o-$, the latter of which could be seen as an *o*-grade of the same suffix, assisting its generalisation.

Once the Greek *s*-futures are explained as continuing the *s*-aorist subjunctive, it is economical to assume that the original formation associated with the $*-h_1s^e/o-$ desiderative was a $∅$ -grade reduplicated root, as demonstrated by cognates between Indo-Iranian and OIr. The only decent evidence for the presence of a laryngeal comes from Indo-Iranian, where lengthening is found in

desideratives like Vedic *jigīṣati*, ‘wishes to go’ ≈ OIr. *bebaid*, ‘will die’ < **g^ui-g^uh₂-se-ti*.¹⁸ Since in Indo-Iranian the laryngeals fell together in vocalic position, which is how they would have commonly functioned in root-final position, it seems sensible to assume that the reanalysis took place in this branch, creating a Proto-Indo-Iranian desiderative **-Hsa-*. Alternatively, the lengthening of *-i-* < **H* in **C(e)H* roots such as **g^ueh₂-* may have been analogical, based on the model of roots with the shape **C(e)NH* or **CN(e)H*, such as **g^hneh₃-*, ‘know’. In such roots, the desiderative would have taken the form **Ci-CN^hH-se-ti*, which in Proto-Indo-Iranian would then develop into **Ci-Cā-sa-ti*. Similarly, **CRH* roots would have developed into **Ci-C[̄]-sa-ti*. This would provide a basis for speakers to consider lengthening of whichever vocalic element precedes the suffix as characteristic of the desiderative.

Brief mention is also required of Jasanoff’s “unreduplicated athematic *s*-future”, since it is thought to have an OIr. reflex. Seven OIr. verbs form their future stem without reduplication, and appear to have an athematic 3sg., e.g. *seis*, ‘will sit’ < **sed-s-ti*, leading Jasanoff (1988:233) to compare them with Lithuanian *bùs*, ‘will be’ < **b^huh_x-s-t(i)* and Oscan/Umbrian *fust*, ‘id.’. As McCone (1991:165–68) shows, however, there is no more reason to think that the *seis*-type futures were originally athematic than there is for the *bebaid*-type: other forms in the paradigm are all thematic (e.g. 1sg. *ad-errius*, ‘I will repeat’ < **-reg-s-ū*; *at-resat*, ‘they will rise’ < **reg-s-ont(i)*), and an intrusive athematic 3sg. is common to both the *s*-future and the *s*-subjunctive, due to remodelling on the basis of the *s*-preterite (1991:167). Given that all of the roots in question have the structure **CeT*, McCone (1991:168–74) instead compares the OIr. unreduplicated future with the Indo-Iranian unreduplicated desiderative, likewise formed to **CeT* roots, e.g. Vedic *śíkṣati*, 3sg. desiderative of *śak-*, ‘be able’, in place of expected **śíśkṣati*. He suggests that both the OIr. unreduplicated futures and the Indo-Iranian unreduplicated desideratives reflect a PIE cluster simplification, i.e. **Ci-CT-s-eti* > **CiT-s-eti*. Since this explanation accounts for the distribution of the unreduplicated future in Irish, it seems preferable to deriving it from an athematic *s*-desiderative.

The desiderative and the *s*-aorist subjunctive were not only formally similar, but also functionally: both formations produce future tense forms in the daughter languages, e.g. OIr. *bebaid*, Latin *erit*. Interestingly, the reflexes of the subjunctive and the desiderative, which are distinct in Irish, largely fall together in Brittonic (Zair 2012b:88).

¹⁸ The Proto-(Insular-)Celtic desiderative suffix was **-ās^e/o-*, generalised from roots with **Ci-C[̄]RH-se-* (Zair 2012a:263). OIr. is consequently not diagnostic of a laryngeal in the suffix.

1.4 Function

Much of the following discussion will focus on the formal aspects of the Celtic subjunctive. An awareness of its function in the other languages where it is attested will nonetheless prove an important guide to analysis and reconstruction. Particularly in the discussion of Continental Celtic material in chapter 4, comparisons will be drawn between the syntactic contexts of possible instances of the subjunctive in those languages and those in which it is known to be found in the Insular Celtic languages. The purpose of such comparison is to delimit where the subjunctive can be expected to be found, although it must be acknowledged that syntactic reconstruction is significantly more challenging than phonological and morphological reconstruction. The results must be treated more cautiously, therefore. Similarly, reconstructing the “original” semantics of a morpheme is complicated by the fact that morphemes gradually develop new functions, while losing older functions. A brief account is given here of the problems of semantic and syntactic reconstruction, and approaches to be taken in the course of this work to attempt to control for them.

1.4.1 Semantics

The problem of establishing the original semantics of the subjunctive in Proto-Indo-European can be demonstrated by the profusion of suggestions in the past 150 years as to its fundamental meaning: to give a few examples, Delbrück (1871:13) states that “[der] Grundbegriff ist für den Conjunctiv der Wille”; Hahn (1953 *passim*) suggests the subjunctive and optative were originally future tenses, the subjunctive being the “more vivid” future; Gonda (1956:69–70), responding to Hahn, claims that the subjunctive “expresses visualization”. Such disagreements about its original semantics have continued into the twenty-first century. Rix (2003:7) suggests that the subjunctive originally had “prospective” and “voluntative” meanings in Proto-Indo-European, the latter of which was apparently lost in Proto-Italic. Jasanoff (2003:182) similarly attributes it with “prospective” as one of its meanings, but does not specify any other meanings. Tichy (2006a:104–5; 2006b *passim*) claims that it was originally “expectative”, from which a “hortative” function developed.

These differences may, in fact, point towards the deeper problem that it might not be possible to recover specific semantics for the subjunctive in Proto-Indo-European. This could be the case if the morpheme developed different meanings over the time of its use in Proto-Indo-European. During this time, the branches which attest it may have separated from the rest of the speech community, taking with them the semantics then applicable to the form, which then underwent further development in their individual branches. In this case, all we could hope to do is reconstruct a range of possible meanings for the category. The situation is more hopeful for Proto-Celtic, however, since the time-depth between the parent and the attested daughter languages,

although large, is less significant. Certainly, the semantics and usages of the subjunctive in the Insular Celtic languages correspond closely to each other. As Rieken (2012:85) notes, the present subjunctive in OIr. denotes meanings in the range from “possible” (möglich) to “unlikely” (unwahrscheinlich) on the scale of epistemic modality, while the imperfect subjunctive denotes the “impossible” (unmöglich) and “counterfactual” (kontrafaktisch). Regarding the MW subjunctive, Evans (*GMW*:112) says that it “occurs in all kinds of subordinate clauses, usually denoting what may or might happen/be, as opposed to actual occurrence or fact”, which corresponds well to Rieken’s range from “möglich” to “unwahrscheinlich”. Furthermore, in both OIr. and MW the subjunctive is used in main clauses to express commands and wishes (*GOI*:329; *GMW*:113). Finally, it is noteworthy that in both OIr. and MCo., counterfactual conditionals have the imperfect/past subjunctive in the protasis (Rieken 2012:101; N. Williams 2011:337). All of these usages might reasonably – if tentatively – be reconstructed for the stage in the development of Celtic which produced the Goidelic and Brittonic branches, although convergent evolution cannot be ruled out.

Recently, the view that the Indo-European subjunctive functioned as a future tense has gained popularity. Bozzone, using typological theories of semantic development, suggests that the morpheme which would later denote the subjunctive had first developed from “an older marginalized present form” into a future tense morpheme (2012:18). A similar proposal of a present tense origin has been made by Dahl (2005; 2013), again with reference to typological theories. There are some advantages to this approach. In the first instance, it is observable that several early Indo-European languages employ the same form to express present and future tense, a phenomenon most clearly visible in Anatolian, but also found in Germanic, Tocharian, Greek and Indo-Iranian, and also common cross-linguistically. Additionally, the assumption that the future tense was originally expressed by present tense forms in Proto-Indo-European removes the need for a distinct future tense. Such models for the development of the subjunctive also have the advantage that they are able to explain the formal identity between the subjunctive and the thematic present, and moreover reflect recent advances in our knowledge of how verbal categories develop. There are difficulties, however, with the suggestion that the thematic subjunctive and present represent, in origin, the same formation (1.4.3.1).

1.4.2 Syntax

The syntax of the subjunctive is perhaps even more difficult to reconstruct for Proto-Indo-European than its semantics. This is due to the fact that significant syntactic changes can happen over a relatively short period of time, a fact that can be illustrated by the shift in word order patterns found in the Celtic languages. It seems likely that Proto-Celtic, the break-up of which is generally dated to the early first millennium BCE, inherited the unmarked SOV word order

common in many early Indo-European languages, and cross-linguistically common in highly inflected languages. This pattern appears to be reflected by Celtiberian, attested from the last few centuries of the first millennium BCE into the first century CE. In Gaulish, attested slightly earlier than Celtiberian, but until rather later, word order is “assez libre” (Lambert 2003:71), but with a preponderance towards SVO (Schmidt 1990a:256), and with VSO dominant in subordinate clauses (Ziegler 2004:4). Insular Celtic languages generalise this VSO word order by the time of their earliest attestations, in around the 6th Century CE, although there are relics of non-verb-initial word order in early OIr., a phenomenon termed “Bergin’s Rule” (Bergin 1938).¹⁹ Thus, over a period of around nine-hundred years a wide variety of word orders is found, deviating significantly from the comparatively recent Proto-Celtic. This illustrates the margins of uncertainty when attempting syntactic reconstruction even at a shallow level, let alone into Proto-Indo-European.

Reconstructing the syntax of the subjunctive for Proto-Indo-European is complicated by the fact that, as indicated in the history of the term (1.2), it is primarily found in subordinate clauses in Greek and Vedic. In both languages, its main clause usages are traditionally described as expressions of will, futurity, and exhortation (cf. Delbrück 1888:306–14 for Vedic; Willmott 2007:53–55 for Greek), while it is found in a wide variety of subordinate clauses and specialised expressions, such as prohibition (Delbrück 1888:314–30; Willmott 2007:90ff.). OIr. is similar, with a significant proportion of subjunctive uses found in subordinated contexts (McQuillan 2002). In Latin, however, where the thematic subjunctive functions as the simple future tense, it is usually found in main clauses, although it is also used in conditional protases (Pinkster 2015:423–24).

Most types of subordinate clauses are difficult to reconstruct for Proto-Indo-European: only relative clauses can be reconstructed with much certainty, and they do not often involve the subjunctive, although it is notable that both Greek and Vedic use the subjunctive in the expression of generic relative clauses, as does OIr. (McQuillan 2002:199–208). The difficulty of reconstructing subordinate syntax for Proto-Indo-European is, in fact, to be expected, given the

¹⁹ The reality of Bergin’s Rule has been disputed over the years, particularly by Wagner (1967; 1977), who took the construction as merely an artificial aspect of Irish literary language, a view seemingly still accepted, at least in part, by Lash (2020:95). Eska (2007b:272; 2008), however, takes the syntax of Bergin’s Rule constructions as representing a genuine earlier verb-final construction, perhaps corresponding to the SOV word order of Celtiberian, rather than a “scrambling of the surface configuration”. His examples (2008:46) regarding Bergin’s Rule constructions after the conditional conjunction *ma*, ‘if’, are particularly compelling in this regard, and it seems likely that Bergin’s Rule does represent a genuine syntactic archaism, the range of which was perhaps expanded for stylistic purposes by Old Irish writers.

typological observation that subordinate clauses tend to be the environments in which older morphology is preserved for longest, before being ultimately lost (Bybee et al. 1994:213–14; Bybee 2001). It is likely that Proto-Indo-European itself, as well as its various stages after dialects split off, had subordinate structures which preserved morphology from earlier stages of the proto-language, but which were lost prior to our earliest records.

1.4.3 Typological Approaches

A significant problem with previous scholarship on the modal categories of Proto-Indo-European has been an essentially tacit assumption that certain morphological categories, such as the subjunctive and optative, should have existed throughout the life of Proto-Indo-European, or that, if they are to be thought of as later developments in the proto-language, they should have emerged fully formed and in their ‘classical’ function. Such an approach is seen, for example, in Jasanoff (2009), who suggests that the Indo-European optative mood developed in the period between the separation of Anatolian from Proto-Indo-European and that of Tocharian – generally accepted as the next branch to separate, despite its relatively late attestation – but makes no effort to explain how it may have developed. This seems to contradict what can be established from studies of the development of living languages. Although phonological developments can introduce new productive morphemes into a system – as seems to have occurred with the OIr. *ā*-subjunctive (2.2.2) – it is rare for new morphology, syntax, or semantics to be generated spontaneously. Rather, they evolve through a slow process of reanalysis of existing material. Moreover, it is cross-linguistically uncommon for modality to be the first step in such a process, as can be seen from the prevalence in living languages of modal forms which can be traced back to forms with earlier temporal or aspectual functions.²⁰

Although exceptions to any theory of language change can be found, and language universals in the Greenbergian sense (e.g. 1966) are no longer generally accepted, the tendencies observed in typological studies could prove useful in examining how the attested Celtic subjunctive forms relate both to a Proto-Celtic parent form, and an earlier Proto-Indo-European form. They are therefore discussed here – with particular reference to studies of how verbal categories develop – to inform the syntactic and semantic aspects of reconstructing the Proto-Celtic subjunctive. The two principal applications of typology to this problem are the following: first, recognising cross-linguistically common paths of semantic development, allowing a degree of evidence-based conjecture around the earlier usages of morphemes; second, observing that certain syntactic environments are more conservative of earlier morphology and semantics, which may allow

²⁰ Cf. the Armenian forms cited in 1.4.3.1, and the development of the Spanish synthetic future into an epistemic mood, e.g. *Tendrá veinte años*, ‘he’s probably (about) twenty years old’ (Bybee et al. 1994:202).

comparative reconstruction of certain syntagmata associated with the subjunctive in Proto-Celtic, and possibly even Proto-Indo-European.

1.4.3.1 Paths of development

It is well-known that some linguistic changes are likelier than others, and this is acknowledged by both formal (e.g. Lightfoot 1979:149–50) and functional (e.g. Bybee et al. 1994) linguists. Indeed, it is a precondition of linguistic reconstruction that language change must be in some respect predictable. Evidence for this is found in phonology, as well as in semantics and syntax. For example, sound changes like [k] > [tʃ], [p] > [f], [z] > [r], [s] > [h] can be treated as unidirectional, since they are cross-linguistically so common, and their reverse vanishingly rare (Haspelmath 2004:19). Similarly, in lexical semantics there are developments which appear to be unidirectional, and therefore to an extent predictable, forming the basis of the field of historical semantics (cf. Blank and Koch 1999; Allan and Robinson 2011).

Such theories of the directionality of linguistic change can also apply to the semantics of verbal categories. This has been widely explored, and is perhaps most comprehensively explored in Bybee, Perkins and Pagliuca (1994), in which the authors present copious data for developmental pathways for the verbal categories of modality, tense, and aspect.²¹ These ideas have since been expanded, and the practice of producing ‘semantic maps’ of common paths of development of semantic categories, is now commonplace (van der Auwera and Plungian 1998; van der Auwera, Dobrushina, and Goussev 2003; Ö. Dahl 2008; Croft and Poole 2008; Boye 2010). Although caution must be exercised, a method involving extrapolation on the basis of observable cross-linguistic phenomena seems more reliable than simple comparison of usages found in individual languages, since the usage of forms evidently changes over time.

Some of the tendencies observed in the production of semantic pathways and maps are of particular interest in relation to the development of the subjunctive in both Celtic and Indo-European. As mentioned above (1.4.1), recent publications by Bozzone (2012) and Dahl (2005; 2013) propose that the Indo-European subjunctive should be considered a development of the thematic present tense. This proposal has distinct merits (1.4.1), and is bolstered by the

²¹ Although Bybee et al. treat this as a study of grammaticalisation, this term is so variously applied in the literature that it will be avoided here: it does not seem necessary, for instance, for the non-regular phonological reduction that is traditionally associated with grammaticalisation to take place for morphemes to follow paths of semantic development. This is the case with the development of Proto-Germanic **magan-/mugan-*, ‘be able’ in English (1.4.3.2), which followed regular sound change: OE *ic mæg* > ModE *I may*, cf. OE *dæg* > ModE *day*; cf. also the development of OArm. subjunctive in *-ic-* from PIE iterative-present **-sĕe/o-*.

observable fact that present tenses often develop into future tenses and subjunctives cross-linguistically (Haspelmath 1998). Within Indo-European, for example, this can be seen in the Tocharian subjunctive, which functions synchronically as both a future tense and a subordinate verbal form. Many of the forms of the subjunctive in Tocharian derive from present tense stem forms in Proto-Indo-European, e.g. TB *kärnām*, '(s)he will buy', < **k_uri-né-h₂-*, cf. Vedic *krīṇāti*, OIr. *crenaid*, alongside recharacterised TB present *kärnā-ssā/ske-*. Similarly, in most modern Armenian dialects the subjunctive derives from the Old Armenian simple present tense, e.g. Modern Eastern Armenian *kardam*, '(that) I read' < OArm. *kardam*, 'I read' (Sayeed and Vaux 2017:1155), while a periphrastic form with the verb 'to be' functions as the simple present tense, e.g. *kardum em*, 'I read, am reading'.

In contrast, the opposite development does not take place often, if at all. Although examples of 'demodalisation' have been suggested by scholars opposed to unidirectionality in grammaticalisation, these are often simple relexicalisations of material that has otherwise assumed grammatical status. Moreover, Ziegeler (2004 passim, especially pp.127–30) has shown that such relexicalisations are semantically similar to the grammatical material from which they develop, thus following a *semantic*, if not a *morphosyntactic*, path of development. Consequently, the suggestions of Jasanoff (2003:180–82) and Ringe (2006:160–61) that Tocharian and Germanic indicative forms derive from Proto-Indo-European subjunctives seem quite unlikely. Admittedly, demodalisation in inflecting languages is not well-studied, so it is unclear whether they behave differently. Nonetheless, explanations of forms which contradict known cross-linguistic tendencies should probably be avoided.

The idea that the Indo-European subjunctive developed from an earlier verbal form is also supported by the observation made by Bybee et al. (1994:213–14) that cross-linguistically the only further development that modal forms tend to undergo after restriction to subordinate clauses is "gradual loss from the language". Consequently, if the subordinate functions of the Indo-European subjunctive were already its primary function in the parent language, it is unlikely that it would have survived into the daughter languages, since such peripheral verbal forms are easily lost. Again, evidence for such developments can be found in the development from Classical Armenian to Modern Armenian, in which the subjunctive in *-ic-*, already confined to a limited range of functions in Classical Armenian, was ousted by the classical present tense indicative as it became a new subjunctive, and consequently lost (Vaux 1995:141).

Both Bozzone (2012) and Dahl (2005; 2013) have attempted to apply such typological findings to the question of the thematic subjunctive. It is a theoretical framework derived from Bybee et al. (1994) that leads Bozzone to conclude that the subjunctive developed from a marginalised present tense, as a future tense in Proto-Indo-European. Her theory is jeopardised, however, by

the fact that the formation she identifies as being the source of the subjunctive is the thematic present $*-e/o-$. She posits that this formation was displaced from its main clause present tense functions by more marked formations such as $*-j^e/o-$ or $*-sk^e/o-$ presents. There are two obvious problems with this suggestion. First, if we consider the evidence of Anatolian, it seems likely that the simple thematic present in $*-e/o-$ is younger than the presents in $*-j^e/o-$ and $*-sk^e/o-$. Anatolian is generally taken to be the first Indo-European branch to separate from the family, and attests the latter two formations but not the simple thematic present (1.3.2.1). Assuming that older morphology was displaced by newer formations, we should then expect subjunctives in $*-j^e/o-$ or $*-sk^e/o-$, rather than the attested $*-e/o-$. Additionally, the thematic present tense morpheme $*-e/o-$ is a highly productive formation in the branches which attest the thematic subjunctive, making it difficult to believe that it was marginalised already within Proto-Indo-European. As will be shown with examples from Armenian (1.4.3.2), it is more common for newer formations to marginalise older ones, rather than vice versa.

Consequently, it is difficult to maintain the hypothesis that the thematic subjunctive of Proto-Indo-European is directly related to the thematic present. In Chapter 5, after a reconstruction of the Proto-Celtic subjunctive has been offered, we will ask whether the Celtic material can provide new insights into the form of the Proto-Indo-European subjunctive.

1.4.3.2 Conservative environments

As well as the existence of pathways of development followed by verbal forms, it is useful to note that there are certain syntactic environments in which earlier semantics and morphology are preserved, even after ceasing to be productive in main clauses. One such environment is in protases of conditional sentences (Bybee et al. 1994:208–9), as illustrated by the English example ‘If I may make a suggestion,...’. Here, an earlier meaning of ‘may’ as indicating permission or ability of the agent is preserved, significantly closer to Old English *mæg* in “*á mæg God wyrcean wundor æfter wundre*”, “God can work wonder after wonder” (Beowulf l.930, cited in Bybee et al. 1994:193), than its modern usage as a marker of epistemic possibility, as in ‘I may finish by Friday’ (idem 1994:240). The meaning ‘to be able’ is attested in early Germanic languages from all three branches of the family, e.g. Gothic 1sg. *mag*, ‘I am able’; OHG *magan/mugan*, ON *mega*, both ‘to be able’.²² This suggests that this is the earlier meaning of the verb, and that it has undergone semantic developments in the separate branches of Germanic. We find reflexes of the

²² NHG *mögen* is probably a ‘split’ in the semantics of OHG *magan/mugan*: its earliest uses with the meaning ‘to like’ are with verbs of sense, whence the meaning was presumably abstracted further (Diewald 1999:316).

Indo-European thematic subjunctive well-attested in conditional protases in Homeric Greek and Early Latin, and in OIr.. They also survive in Vedic conditionals marked with the conjunction *ca*.

Similarly, Bybee et al. note that “subordinate clauses ... tend to be conservative grammatically, retaining older syntax and morphology” (1994:231). In practice this means that subjunctives develop from forms which had previously functioned as indicatives when another formation becomes sufficiently productive in main clauses to confine them to subordinate clauses. They illustrate this with examples from the development from Classical to Modern Armenian. The Modern Eastern Armenian present tense is a synthetic formation using a non-finite verbal form suffixed with *-um* and forms of the verb ‘to be’, e.g. *gnum em*, ‘I go, am going’ (Kozintseva 1995:24). Alongside this exists the subjunctive, MEA *gnam*, ‘(that) I go’ (id.:36). In earlier Armenian, however, these forms have different functions: the latter form is that of the simple present tense, and still is in certain irregular verbs, e.g. MEA *gitem* ‘I know’ (Haspelmath 1998:31). The periphrastic form develops in Middle Armenian, where it functions as a progressive present, providing a contrast similar to that between Modern English ‘I go’ and ‘I am going’. As the periphrastic form became more frequent, perhaps because it reduced the variety of forms in the language,²³ the synthetic present became increasingly limited in its scope, until it was restricted to a few environments,²⁴ becoming grammaticalised as a subjunctive. It seems possible, then, that the distribution of the subjunctive found in the Indo-European languages – i.e. limited to subordinate contexts – is unlikely to be original, but rather a result of grammaticalisation either late in Proto-Indo-European or in the daughter languages themselves. In Celtic, too, it is possible that the range of contexts in which the subjunctive is found is more limited than it would have been in Proto-Celtic.

The findings of Bybee, Perkins and Pagliuca about preservation of earlier meanings of verbal forms in environments such as conditional protases also point towards a more fundamental problem in the reconstruction of the semantics of the Proto-Indo-European subjunctive, namely that the semantics of modal forms are often pragmatically conditioned. This has been recognised since at least the work of Palmer (1986), and can be illustrated by the English utterances ‘He must phone us as soon as he arrives’ and ‘He must be in the office by now’. In the first of these utterances, the modal verb *must* is deontic, asserting an obligation to be discharged by the subject

²³ All indicatives in MEA except for the aorist are now periphrastic with forms of ‘to be’ (Kozintseva 1995:24), reflecting a tendency in the language to reduce its inflectional variety.

²⁴ Namely (a) future formations with the prefixes *k’ə* or *p’it’i*, depending on dialect; (b) purpose clauses; (c) protases of conditional sentences; (d) in temporal clauses with the conjunction meaning ‘until’; (e) in complement clauses to the verb ‘be necessary’; (f) with volitional or deontic force in main clauses (Bybee et al. 1994:231; Kozintseva 1995:36ff.).

of the utterance, here a third party. In the latter utterance, however, the verb *must* is epistemic, and represents an expression of the speaker's commitment to the truth value of the proposition, here a strong commitment. There is clearly no morphological distinction between these readings: it is entirely context-dependent. Moreover, languages can attest more than one exponent of deontic and epistemic modality at the same time: in Latin, for example, the synchronic subjunctive is both deontic and epistemic, e.g. *moneat*, '(s)he should warn' (deontic) or '(s)he may warn' (epistemic). The interpretation is conditioned by grammatical and pragmatic context. Deontic modality, however, is also grammaticalised in Latin in the imperative for the 2/3sg./pl., e.g. 3sg. *monētō*, 'let him warn', although the third person forms are clearly receding throughout the documented period, being replaced by the subjunctive. It is unrealistic, therefore, to expect a one-to-one correspondence both between form and function and between function and form in the parent language. Moreover, since it is impossible to reconstruct the pragmatics of Proto-Indo-European or Proto-Celtic, we have no way of determining which contexts may have conditioned which form or function.

1.5 Key questions

In 1.1, a summary was given of the structure to be followed in this work. Here, the research questions to be answered in each chapter are detailed. Chapter 2 sets out the synchronic evidence for the subjunctive in Insular Celtic, giving paradigms of the various inflectional types attested for ease of reference during the following discussion, and briefly discusses the important synchronic features of each formation. A comparative treatment of the data then follows, in which a number of questions about the various subjunctive formations are addressed. Regarding the Insular Celtic *s*-subjunctive, particular attention is paid to its inflectional irregularities, which have led to speculation that the paradigm was originally athematic (Kortlandt 1984). The history of the problem of the OIr. *ā*-subjunctive and the Brittonic *h*-subjunctive is then summarised, largely following McCone (1991), although differing in some matters of detail. The Brittonic irregular subjunctives in *el* are then treated at some length to settle the question of whether they require the reconstruction of a Proto-Italo-Celtic *ā*-modal morpheme (Jasanoff 1994). Finally, a preliminary reconstruction of the Proto-Celtic subjunctive, based on the Insular Celtic data alone, is given.

Chapter 3 addresses problems in the historical phonology and morphology of the Continental Celtic languages, in order to establish an internally consistent set of sound-laws for the treatment of forms in these languages. The relative chronology for Gaulish proposed by Schrijver (2007) is questioned, and attempts made to remedy its shortcomings. The principal questions regarding Celtiberian are whether <z> can represent etymological *s, and whether the language underwent apocope of *-i#. Chapter 4 applies these findings to the Continental Celtic data, and attempts to

identify true subjunctives among the previously suggested forms. Particular attention is paid to the question of whether Continental Celtic attests \bar{a} -subjunctives, since attestations of an \bar{a} -subjunctive here would disprove McCone's theory of the Irish \bar{a} -subjunctive. Finally, Chapter 5 collates the findings of the previous chapters to reconstruct the Proto-Celtic subjunctive on the basis of the data found in all of the attested languages. It goes on to assess whether the Proto-Celtic reconstruction might inform the reconstruction of the Proto-Indo-European subjunctive.

2 The Insular Celtic Subjunctive

This chapter details the morphology of the subjunctive in the Insular Celtic languages. The synchronic facts are given first, and then reconciled into a preliminary reconstruction for Proto-Celtic.

2.1 Synchrony

Attestation of the subjunctive varies between the Celtic languages, and, as might be expected from the size and comparatively early date of the corpus, much of the best evidence comes from Old and Middle Irish. Nonetheless, there are subjunctive forms in Brittonic, which can be shown to be cognate with those in Irish. Moreover, the Brittonic material can cast important light on prehistoric developments of the subjunctive in both Brittonic and Irish.

2.1.1 Old Irish

Old Irish synchronically shows a significant variety of subjunctive forms, although two stem-classes predominate: the *s*- and *ā*-subjunctives. These are the only formations identified by Thurneysen (*GOI*:§596), although modern scholars also suggest that an *e*-subjunctive should be identified for hiatus verbs, such as *gniid* ‘do’ and its compounds, and *ad-ci*, ‘see’.²⁵ This pattern also applies to the subjunctive of the substantive verb, *at-tá*, 3sg. pres. subj. *beith*, *-bé*. Alongside the regular inflections, there exist several irregular formations, particularly in the copula verb. The Irish subjunctive has two tenses, labelled ‘present’ and ‘past’ in *GOI* (§520), distinguished formally by their endings: the former predominantly takes the endings of the present indicative, the latter those of the imperfect indicative.

The system of classification of Irish verbs here will follow McCone (1997:23–25), who divides verbs into three principal types: W (Weak), S (Strong) and H (Hiatus). Weak verbs are defined by a 3sg. ind. conj. in a final vowel, e.g. *-leici*, ‘leaves’; strong verbs have 3sg. ind. conj. with a final consonant, e.g. *-beir*, ‘carries’; hiatus verbs have a final vowel in the 3sg. conj., but it bears stress, e.g. *do-soí*, ‘turns to’. These types have subdivisions, largely on the basis of features of their present stems. The classifications are nonetheless useful, since certain present stems correlate with subjunctive stems.

2.1.1.1 The *s*-subjunctive

Synchronically, the *s*-subjunctive has a limited distribution already in the earliest OIr. It is restricted to strong verbs with a final dental or velar stop or fricative, or a final *-nn-*, totalling

²⁵ Schumacher (*KPV*:48-9; 344(c); 416(c)), largely following McCone (1991:chap. 6), suggests deriving these from simple thematic subjunctives, i.e. < *ROOT-*e/o-*, either inherited or, in *ad-ci*, analogical within Irish. Other scholars, e.g. Schmidt (1990b:71–72), treat it as a late offshoot of the *ā*-subjunctive.

around fifty roots (*GOI*:§596). The subjunctive stem is formed by adding the morpheme *-s-*, to which the final consonant of the root assimilates, e.g. 3sg. ind. *guidid*, ‘prays’, subj. *geiss*.

Inflectionally, the *s*-subjunctive shares its endings with the corresponding tenses of the indicative, except for the 3sg. present active, which synchronically simply reflects the subjunctive stem, with a palatalised final consonant. Paradigms (based on *GOI*:§620–31, with reference to relevant headwords in *eDIL*) of the present subjunctives of the active-inflecting verbs *téit*, ‘go’, and *guidid*, ‘pray’ are given below, followed by the deponents *midithir*, ‘judges’, and *ro-fitir*, ‘knows’, and the imperfect *s*-subjunctive. Active and deponent verbs share endings in the imperfect, which do not vary between absolute and conjunct position as in the present. The gaps in the tables reflect the fact that only absolute forms can be marked for relativity: relative clauses containing complex verbs are introduced by infixation of a particle after the first preverb, which has no surface form, but causes lenition or nasalisation of the following consonant. Forms marked * have been reconstructed based on other paradigms, and attested forms are standardised from their manuscript readings to create regular paradigms. Uncertain readings will be noted in passing.

Table 2-1 The present active *s*-subjunctive

	Absolute	Conjunct		Absolute	Conjunct
1sg.	<i>tíasu</i> ²⁶	<i>-tías</i>	1sg.	* <i>gessu</i>	<i>-ges</i>
2sg.	<i>tési</i>	<i>-téis</i>	2sg.	* <i>gessi</i>	<i>-geiss</i> ²⁷
3sg.	<i>téis</i>	<i>-té, -téi</i>	3sg.	* <i>geiss</i>	<i>-gé</i>
Rel. Sg.	<i>tías</i>		Rel. Sg.	<i>ges</i>	
Pass. Sg.	<i>tíasair</i>	<i>-tíasar</i>	Pass. Sg.	<i>gessir</i>	* <i>-gessar</i>
Rel. Pass. Sg.	<i>tíasar, tíastar</i>		Rel. Pass. Sg.	<i>gessar</i>	
1pl.	* <i>tíasmai</i>	<i>-tíasam</i> ²⁸	1pl.	* <i>gesmi</i>	<i>-gessam</i>
Rel. 1pl.	* <i>tíasmae</i>		Rel. 1pl.	<i>gesme</i>	
2pl.	<i>tíastai(si)</i> ²⁹	<i>-tésid</i>	2pl.	<i>gesti(si)</i>	<i>-gessid</i>
3pl.	<i>tíasait</i>	<i>-tíasat</i>	3pl.	* <i>gessit</i>	* <i>-gessat</i> ³⁰
Rel. 3pl.	<i>tíastae</i>		Rel. 3pl.	* <i>gestae</i>	
Pass. Pl.	-	-	Pass. Pl.	* <i>gessitir</i>	<i>-gessatar</i>
Rel. Pass. Pl.	-		Rel. Pass. Pl.	* <i>gessatar</i>	

²⁶ Standardised. Actual attestation: .i. *ciathiasusa martri*, ‘though I should go to martyrdom’ (Wb.23c31).

²⁷ Cf. compound *fo-geiss*, ‘beg’ (Strachan 1904:199).

²⁸ Attested after *cía*, ‘although’, (Thes. ii 299.30) where absolute forms are expected. Possibly a miscopying.

²⁹ In both this paradigm and that of *guidid*, the bracketed (*si*) is the 2pl. personal pronoun.

³⁰ The 3pl. conjunct is attested in the perfective *conroigset*, ‘so that they might beseech’ (Wb.16c23).

Table 2-2 The present deponent and past s-subjunctive

	Absolute	Conjunct		Simple Verbs	Compound Verbs
1sg.	* <i>messur</i>	<i>ro-fessur</i>	1sg.	* <i>no-gessinn</i>	<i>-risinn</i> ³¹ (<i>ro-icc</i> , 'arrives')
2sg.	<i>messer</i> ³²	<i>ro-fesser, ro-fésser</i>	2sg.	* <i>no-gesta</i>	* <i>co-rista</i> ? ³³
3sg.	* <i>mestir</i>	<i>ro-festar, ro-fíastar</i>	3sg.	* <i>no-gessed</i>	<i>do-n-aidbsed</i> ³⁴ (<i>do-adbat</i> , 'shows')
Rel. Sg.	<i>mestar</i>		Pass. Sg.	* <i>no-gestae</i>	<i>-aiciste</i> ³⁵ (<i>ad-guid</i> , 'invokes')
Pass. Sg.	<i>mesair</i>	<i>ro-festar</i>	1pl.	<i>no-gesmais</i>	<i>co-rísmis</i> ³⁶ (<i>con-ric</i> , 'encounters')
Rel. Pass. Sg.	<i>messar</i>		2pl.	* <i>no-gestae</i>	* <i>co-ríste</i>
1pl.	* <i>messimir</i>	* <i>ro-fessamar</i>	3pl.	<i>no-gestais</i>	<i>-esersitis</i> ³⁷ (<i>as-eirig</i> , 'rises again')
Rel. 1pl.	* <i>messar</i>		Pass. Pl.	<i>no-gestais</i>	* <i>-esersitis</i>
2pl.	* <i>meste</i>	* <i>ro-fessid</i>			
3pl.	* <i>messitir</i>	* <i>ro-fessatar</i>			
Rel. 3pl.	* <i>messatar</i>				
Pass. Pl.	* <i>messitir</i>	* <i>ro-fessatar</i>			
Rel. Pass. Pl.	<i>messatar</i>				

³¹ Ml.92a5: *.i. arindrisinn ón*, "i.e. that I should enter it", gl. *disperaueram, me intrare fecisti*

³² Uncertain: possibly attested as *meiser* in O'Davoren's Glossary (Stokes 1904:364).

³³ No form attested.

³⁴ Ml.20a9: *donaidbsed*, "that he should show", gl. *ostentare*

³⁵ Stokes (1905:106): *ara n-aiciste a chumachta*, "so that his power might be invoked"

³⁶ EC:§14, *Im loing glano co-t:rísmis ma ru:ísmis síd mBóadaig*, "In my ship of crystal may we encounter it, if we should reach the peace of Bóadag."

³⁷ Ml.15c7: *†. non lucrificarent .i. corpora .i. nitibertais piana foraib mani esersitis*, "or *non lucrificarent*, i.e. *corpora*, i.e. punishments would not be inflicted on them if they did not rise."

Notably, not all roots with a final dental or velar consonant form an *s*-subjunctive. Weak verbs like *creitid*, ‘believes’, (cf. W. *credu*, Latin *credit*, both < PIE **k̑red-d^heh₁-*) form *ā*-subjunctives, e.g. *arna rochretea*, ‘that he may not believe’ (Ml.127a7). The verbs *ag(a)id*, ‘drives’, and *ad-gládathar*, ‘addresses’ – described as strong verbs in *GOI* (*GOI*:§596) – also form *ā*-subjunctives, e.g. 2sg. conj. *ma im-aga*, ‘if you drive out’ (Stokes 1904:207), 1pl. conj. *co n-acaldam*, ‘that we might address (her)’ (*TBF*:§27). It is uncertain, however, whether these verbs are synchronically strong in OIr. As McCone (1997:33) notes, *ag(a)id* is the only velar-final strong verb in Irish with an *ā*-subjunctive, so it may be wise to seek an alternative explanation for its aberrant formation. Although Thurneysen treats *ad-gládathar* as strong, this is somewhat doubtful: most strong verbs in OIr. are inherited from Proto-Celtic and Proto-Indo-European, but *ad-gládathar* has few, if any, cognates, suggesting that it is probably a secondary formation within Irish. More recent work on the Irish verb takes *ad-gládathar* as a W2 verb (McCone 1997:46–47; *KPV*:49, n.40), and this view is followed here.

2.1.1.2 The *ā*-subjunctive

The *ā*-subjunctive is the synchronically productive formation of the subjunctive. This was seen already with relation to the subjunctive of *creitid*, which, although superficially of the correct structure to receive an *s*-subjunctive ^x*creiss*, instead forms an *ā*-subjunctive.

Although the *ā*-subjunctive is by far the most widespread formation in OIr., it is often morphologically identical with the corresponding indicative form. For weak verbs with a stem-final *-a-*, the *ā*-subjunctive is only distinct in the present active 1sg. and 2sg., although in other stem types the subjunctive and indicative are more distinct. Paradigms for the *ā*-subjunctives of *beirid*, ‘brings’ (S1), *crenaid*, ‘buys’ (S3), *suidigthir*, ‘places’ (W2 deponent), and *leicid*, ‘leaves’ (W2), are given below, based on *GOI* (§598–605). The *ā*-subjunctive of W1 verbs patterns with that of S1 verbs. Since no individual verb attests a complete paradigm, many forms are reconstructed, and marked as such. The imperfect subjunctive of *beirid*, ‘brings’, and its compound *do-beir*, ‘gives’, illustrate the imperfect *ā*-subjunctive of simple and complex verbs.

Table 2-3 The present \bar{a} -subjunctive (S1 & S3)

	Absolute	Conjunct		Absolute	Conjunct
1sg.	* <i>bera</i>	- <i>ber</i>	1sg.	* <i>creu</i>	*- <i>créu</i>
2sg.	* <i>berae</i>	- <i>berae</i>	2sg.	* <i>criae</i> , * <i>crie</i>	- <i>cri(a)e</i>
3sg.	<i>beraid</i>	- <i>bera</i>	3sg.	* <i>criaid</i> , * <i>crieid</i>	- <i>cria</i>
Rel. Sg.	* <i>beras</i>		Rel. Sg.	* <i>crias</i>	
Pass. Sg.	<i>berth(a)ir</i>	- <i>ber(th)ar</i> ³⁸	Pass. Sg.	* <i>crethir</i>	- <i>crither</i>
Rel. Pass. Sg.	* <i>berthar</i>		Rel. Pass. Sg.	* <i>crethar</i>	
1pl.	* <i>bermai</i>	- <i>beram</i>	1pl.	* <i>cremai</i>	*- <i>criam</i> ³⁹
Rel. 1pl.	* <i>bermae</i>		Rel. 1pl.	* <i>cremae</i>	
2pl.	* <i>berthae</i>	- <i>ber(a)id</i>	2pl.	* <i>crethae</i>	*- <i>criaid</i>
3pl.	* <i>berait</i>	- <i>berat</i>	3pl.	* <i>criait</i>	- <i>criat</i>
Rel. 3pl.	<i>berte</i>		Rel. 3pl.	* <i>crete</i>	
Pass. Pl.	* <i>bertair</i>	- <i>bertar</i>	Pass. Pl.	* <i>cretir</i>	*- <i>criatar</i>
Rel. Pass. Pl.	* <i>bertar</i>		Rel. Pass. Pl.	* <i>criatar</i>	

Table 2-4 The present \bar{a} -subjunctive (W2 deponent & active)

	Absolute	Conjunct		Absolute	Conjunct
1sg.	* <i>suidiger</i>	*- <i>suidiger</i>	1sg.	* <i>léicea</i>	*- <i>léic</i>
2sg.	* <i>suidigther</i>	*- <i>suidigther</i>	2sg.	* <i>léice</i>	- <i>lé(i)ce</i>
3sg.	* <i>suidigidir</i>	*- <i>suidigedar</i>	3sg.	<i>léicid</i>	- <i>lé(i)cea</i>
Rel. Sg.	* <i>suidigedar</i>		Rel. Sg.	<i>léices(?)</i> ⁴⁰	
Pass. Sg.	<i>suidigthir</i>	*- <i>suidigther</i>	Pass. Sg.	* <i>léicthir</i>	*- <i>léicther</i>
Rel. Pass. Sg.	<i>suidigther</i>		Rel. Pass. Sg.	* <i>léicther</i>	
1pl.	* <i>suidigmir</i>	*- <i>suidigmer</i>	1pl.	* <i>léicmi</i>	*- <i>léicem</i>
Rel. 1pl.	* <i>suidigmer</i>		Rel. 1pl.	* <i>léicme</i>	
2pl.	* <i>suidigthe</i>	*- <i>suidigid</i>	2pl.	* <i>léicthe</i>	- <i>léicid</i>
3pl.	* <i>suidigitir</i>	*- <i>suidigetar</i>	3pl.	* <i>léicit</i>	- <i>léicet</i>
Rel. 3pl.	<i>suidigetar</i>		Rel. 3pl.	* <i>léicite</i>	
Pass. Pl.	* <i>suidigtir</i>	*- <i>suidigter</i>	Pass. Pl.	* <i>léictir</i>	*- <i>léicter</i>
Rel. Pass. Pl.	* <i>suidigter</i>		Rel. Pass. Pl.	* <i>léicter</i>	

³⁸ *-berar*: attested in the *Lebor na hUidre* at 44a21 (Best and Bergin 1929:l. 3293).

³⁹ Cf. *-biam*, 1pl. subj. of *do-forban*, compound of S3 *benaid*, 'strikes', in Ml.105b6: *dundórbiamni .i. indaas bemmi in doiri coricci sentaid*, "that we should reach it, i.e. than that we be in captivity until old age." < **to-for-beasomos*.

⁴⁰ Possibly in *Laws I* (Hancock 1865:12 l.20), but perhaps indicative.

Table 2-5 The past \bar{a} -subjunctive

	Simple Verbs	Compound Verbs
1sg.	<i>no-ber(a)inn</i>	*- <i>taibrinn</i>
2sg.	* <i>no-bertha</i>	*- <i>taibrithea</i>
3sg.	<i>no-berad</i>	- <i>taibred</i>
Pass. Sg.	<i>no-berthae</i>	- <i>tabarth(a)e</i> ⁴¹
1pl.	* <i>no-bermais</i>	*- <i>taibrimis</i>
2pl.	<i>no-berthae</i>	*- <i>taibrithe</i>
3pl.	<i>no-bertais</i>	*- <i>taibritis</i>
Pass. Pl.	* <i>no-bertais</i>	*- <i>taibritis</i>

One remarkable feature of the *a*-subjunctive is that, for verbs with a marked present tense stem, e.g. *crenaid*, ‘buys’ < PIE nasal-infix present **k^uri-ne-h₂-ti*, the subjunctive appears to be formed to the inherited root, without the marked present morpheme, e.g. 3sg. pres. subj. conj. -*cria* < Quasi-PIE **k^urej-ā-*. This has inspired comparisons with early Italic \bar{a} -subjunctives, e.g. Latin *tagam*, to indicative *tango*, ‘touch’. The validity of this comparison will be considered in the diachronic treatment of these forms (2.2.2).

2.1.1.3 The *e*-subjunctive

The *e*-subjunctive is restricted category, formed only to McCone’s H2 class (hiatus verbs with root-final *-i*) e.g. *gniid*, ‘does’, 3sg. subj. -*gné* (abs. **gneith*). It is found in the substantive *at-tá*, which uses the suppletive stem *bé-*. The forms of the substantive are given below (*GOI*:§787), alongside those of *do-gní*, ‘does, makes’ (*GOI*:§608), showing that the *e*-subjunctive falls together with the \bar{a} -subjunctive when the verbal root is unstressed.

⁴¹ *ML*. 36a1, 40d20.

Table 2-6 The present and past e-subjunctive

	Absolute	Conjunct		Absolute	Conjunct		
1sg.	<i>béo, béu</i>	<i>-béo</i>	1sg.	<i>do-gnéo</i>	<i>*-dén</i>	1sg.	<i>no-beinn</i>
2sg.	<i>bee, bé</i>	<i>-bé</i>	2sg.	<i>do-gné</i>	<i>-déne</i>	2sg.	<i>no-betha</i>
3sg.	<i>beith, beid</i>	<i>-bé</i>	3sg.	<i>do-gné</i>	<i>*-déna</i>	3sg.	<i>no-beth, no-bed</i>
Rel. Sg.	<i>bess</i>		Rel. Sg.			Pass. Sg.	<i>no-bethe</i>
Pass. Sg.	<i>bethir</i>	<i>-bether</i>	Pass. Sg.	<i>do-gnether</i>	<i>-déntar</i>	1pl.	<i>no-be(i)mmis</i>
Rel. Pass. Sg.	<i>bether</i>		Rel. Pass. Sg.			2pl.	<i>no-bethe</i>
1pl.	<i>bemmi</i>	<i>-bem</i>	1pl.	<i>do-gnem</i>	<i>-dénam</i>	3pl.	<i>no-betis</i>
Rel. 1pl.	<i>*bemme</i>		Rel. 1pl.			Pass. Pl.	-
2pl.	<i>be(i)the</i>	<i>-beid</i>	2pl.	<i>do-gneid</i>	<i>-dénaid</i>		
3pl.	<i>beit</i>	<i>-bet</i>	3pl.	<i>do-gnet</i>	<i>-dénat</i>		
Rel. 3pl.	<i>bete</i>		Rel. 3pl.				
Pass. Pl.	-	-	Pass. Pl.	<i>do-gneter</i>	<i>-dénatar</i>		
Rel. Pass. Pl.	-		Rel. Pass. Pl.				

2.1.1.4 Other formations

The only verb with a subjunctive outside of the regular categories is the copula, *is*. As in many Indo-European languages, this verb is highly irregular in OIr. Like the substantive, the copula builds its subjunctive on a root with initial *b-*, and it is thought (*GOI*:§804) that the principal difference between the subjunctive of the substantive and copula is that the latter have been reduced due to the fact that the copula is always unstressed (*GOI*:§791). A further peculiarity of the subjunctive of the copula is that, unlike all other OIr. verbs, it shows a distinction between absolute and conjunct inflection in the past subjunctive. Finally, after the conjunctions *má*, ‘if’ and *cía*, ‘although’, the third person subjunctive forms of the copula differ from those in all other syntactic environments. The present and past subjunctives of the copula are given below, followed by the aberrant forms found with *má* and *cía* (based on *GOI*:§802–7).

Table 2-7 Subjunctive of the Copula: Present and Past

	Absolute	Conjunct		Absolute	Conjunct
1sg.	<i>ba</i>	<i>-ba^l</i>	1sg.	-	<i>-bin, -benn</i>
2sg.	<i>ba, be</i>	<i>-ba</i>	2sg.	-	<i>-ptha, -badat</i>
3sg.	<i>ba</i>	<i>-b/p, -bo/po, -bu</i>	3sg.	<i>bid, bith</i>	<i>-bad, -pad, -bed</i>
Rel. Sg.	<i>bes, bas</i>		Pass. Sg.	<i>bed, bad</i>	
1pl.	-	<i>-ban^l</i>	1pl.	<i>bemmis, bimmis</i>	<i>-bemmis, -bimmis</i>
2pl.	<i>bede</i>	<i>-bad</i>	2pl.	-	-
3pl.	-	<i>-bet^l, -bat^l, -pat^l</i>	3pl.	<i>betis, bitis</i>	<i>-bdis/ptis, -dis/tis</i>
Pass. Pl.	<i>bete, beta</i>		Pass. Pl.	-	

Table 2-8 Copula subjunctive after *má* and *cía*

	<i>má</i>	<i>cía</i>
Pres. 3sg.	<i>mad</i>	<i>cid, cith, ced, ceith</i>
Pres. 3pl.	<i>mat</i>	<i>cit</i>
Past 3sg.	<i>mad</i>	<i>cid</i>
Past 3pl.	<i>matís</i>	<i>citis, cetis</i>

2.1.2 Brittonic

2.1.2.1 Welsh

As in Old Irish, the Old and Middle Welsh subjunctive has two tenses from the earliest attestations of the language: present and imperfect. The formation of Welsh subjunctive stems is less varied than in Irish. The great majority of verbs form the subjunctive by adding a morpheme *-h-* to the

root, e.g. *carho*, 3sg. pres. subj. of *car*, 'love'. This *-h-* causes devoicing ('provection') of a preceding voiced consonant, combining with it in the process, e.g. *cretto*, 3sg. present subjunctive of *credu*, 'believe'. In the 2sg. present, 3pl. imperfect, and impersonal imperfect, the root vowel undergoes *i*-affection, e.g. *kerhych*, 2sg. present subjunctive of *car*.

There are isolated instances in MW of subjunctives formed with a morpheme *-s-*, e.g. *gwares*, 'may he help', 3sg. present subjunctive of *gwaret*, found at least three times,⁴² and *ryres*, 'may run' (*GMW*:128). Alongside *s*-subjunctives, there are also rare irregular forms, such as 3sg. present subjunctive *duch*, '(s)he leads', where <ch> represents the velar fricative /x/. The respective indicative form is *dwc*, with final /k/, so *duch* cannot be explained by the addition of subjunctive *-h-*, as /x/ is not the result of the provection of /k/. Notably, the distribution of these forms corresponds to that of the *s*-subjunctive in Irish, i.e. with roots with a final dental or velar stop. Alongside the irregular subjunctives to velar-final roots, the verb *mynet*, 'to go',⁴³ has a highly irregular suppletive subjunctive, 3sg. *el*; cf. 3sg. pres. subj. *del* to the verb *dyfot*, 'come'. As will be seen immediately below, there are also corresponding forms in Breton and Cornish, which are similarly irregular. Since regular phonological processes in Welsh would not reduce an earlier 3sg. **(d)el(h)o* > MW *(d)el*, an alternative explanation is required.

The following tables give the regular subjunctive paradigm of *caraf*, 'I love' (*GMW*:§127), and the suppletive subjunctive *el*, '(s)he goes', supplemented by forms from *dyfot*, 'come' and *gwneithur*, 'do, make' (§141–43). Finally, the subjunctive paradigm of *bot*, 'be' is given (§144). Unless stated, the forms are MW.

⁴² Rhys (1885:36) gives the instances as *RBH*, f.220; *Talieisin* f.109

⁴³ The verbal noun is *mynet*; MW indicative present forms are 1sg. *af*, 2sg. *ey*, 3sg. *a* (OW *hegit*), 1pl. *awn*, 2pl. *ewch*, 3pl. *ant*, ultimately continuing the Indo-European root **h₂eǵ-*, 'drive, move', cf. OIr. *ag(a)id*, 'drive'. The MW paradigm was presumably regularised by analogy with verbs such as *caraf*, 'I love', 2sg. *kery*: regular sound change would yield *i*-affection in the 1sg. (MW **eif* < OW abs **egim* < **agīmi* < Proto-Celtic *agūmi* ← PIE *h₂eǵ-oh₂*) and 3sg. forms (cf. OW 3sg. abs. *hegit* < Proto-Brittonic **agedi* < Proto-Celtic **agetī*), as well as in the 2sg. and 2pl.

Table 2-9 Regular and Irregular Subjunctive

	Present	Imperfect		Present	Imperfect
1sg.	<i>car(h)wyf</i>	<i>car(h)wn</i>	1sg.	<i>el(h)wyf</i>	<i>el(h)wn</i>
2sg.	<i>ker(h)yich</i>	<i>car(h)ut</i>	2sg.	<i>el(h)yich</i>	<i>el(h)ut</i>
3sg.	<i>car(h)o</i>	<i>car(h)ei</i>	3sg.	<i>el</i>	<i>el(h)ei</i>
1pl.	<i>car(h)om</i>	<i>car(h)em</i>	1pl.	<i>el(h)om</i>	
2pl.	<i>car(h)och</i>	<i>car(h)ewch</i>	2pl.	<i>el(h)och</i>	<i>(del(h)ewch)</i>
3pl.	<i>car(h)ont</i>	<i>ker(h)ynt</i>	3pl.	<i>el(h)ont</i>	<i>el(h)ynt</i>
Impers.	<i>car(h)er</i> ⁴⁴	<i>cer(h)it</i>	Impers.	<i>el(h)er</i>	<i>(gwne(h)it)</i>

Table 2-10 Subjunctive of *bot*

	Present	Imperfect
1sg.	<i>bwyf, bof</i>	<i>bewn</i>
2sg.	<i>bych, bwyr, OW an-biic</i> ⁴⁵	<i>bewt</i>
3sg.	<i>bo, boet, OW boi, boit</i> ⁴⁶	<i>bei</i>
1pl.	<i>bwym, bom</i>	<i>beym</i>
2pl.	<i>boch</i>	-
3pl.	<i>bwynt, boent, boen</i>	<i>beynt, OW bein(n)</i>
Impers.	-	-

In OW, attestation of the subjunctive is very limited. This in part reflects how small the corpus is: although *EGOW* can cite twenty-three sources, most attestations are short glosses on Latin texts. Although glosses of only one or two words might seem unlikely to contain instances of the

⁴⁴ Cf. OW *tarnher*, twice in the Cambridge Computus, e.g. *hit niritarnher irdid hinnuith*, ‘until that day be reckoned’ (l.8).

⁴⁵ 2sg. pres. subj. of *hanfod* ‘come from, be from’, in *anbiic guell gl. magister ave* (MS. Bodl. 572 46b).

⁴⁶ MW *bo*, OW *boi* are conjunct forms of the verb: the OW form is found in *cenit boi loc guac*, ‘though there be not an empty space’ (Cambridge Computus, l.12), where we expect a conjunct following the negative particle *nit*. MW *boet*, OW *boit* are seemingly originally absolute forms: *boit* is found in a conditional sentence *hor elin cihutun hitorr usq(ue) ad artu(m) pugni bes (est) hou boit cihutun ceng ir esceir is moi hennoid .uiiii unciæ*, ‘from the forearm as far as the palm – as far as the joint of the hand is two thirds of an *as*; if it be as far as the back of the limb, that is longer – nine inches’ (Bod MS Auct. F. 4. 32, 23r). This distributional difference lends weight from a functional point of view to Zair’s suggestion (2012b:101) that these forms reflect absolute and conjunct treatments of the same Proto-Brittonic form, with OW *boi* formed ← *bo* by analogy to absolute *boit*.

subjunctive, in fact three of the twelve subjunctives listed in *EGOW* are in glosses. Two instances come from a manuscript more widely glossed in OBr. (MS Angers 477), meaning that their interpretation as Welsh is uncertain. Fleuriot (1964:65) considers the first, *anguastathaoei gl. vacillet*, an OW form due to the syllable *-guast-* with un-rounding of the vowel, cf., from the same etymon **u_o-stat-*, MW *gwastat* vs. OIr. *fossad*, MBr. *goustad*, all ‘firm, steady’. The process of un-rounding seems sporadic in the Brittonic languages, however. The ‘Breton’ result of the process can be found in Welsh, e.g. MW 3sg. preterite-present *gogwyr* ← **u_o-u_id-* (KPV: **u_oi_d-/*u_id-*), and Breton also shows the ‘Welsh’ outcome, e.g. MBr. *goas*, MW *gwas*, cf. MBr. *foss*, all ‘servant’ < **u_o-sto-*. This seems an insufficient diagnostic characteristic for this form, therefore, and it should perhaps be seen on balance as OBr., particularly since the spelling <oei> is otherwise unattested in OW, but is widespread in Breton. Nonetheless, it provides information useful to the reconstruction of the Proto-Brittonic, and thus Proto-Celtic, subjunctive.

The second gloss with Welsh features containing a subjunctive verb, *pan cimpenner aer*, appears equally likely to be Welsh or Breton. According to Fleuriot (1964:23), “[e]n v. breton on a en général *com, con-, co-*” whereas “[e]n v. gall. on trouve en général *cim-, cin-, ci-*”. It seems, however, that the same proclitic reduction of the vowel in this preverb took place in both Breton and Welsh, cf. MBr. *quendelch*, ‘supported’ from **com-dalchaff*. However, Fleuriot’s argument (1964:s.v. *aer*) that “[l]’influence romane a empêché dans ce mot l’évolution de *ē* en *oi*, comme dans le gall. *awyr* « air »” is somewhat weakened by the fact that, in either case, the word is borrowed from Latin *aer*, *aeris*, and the spelling of a loanword would have been equally resistant to adjustment in accordance with regular sound change in Welsh as in Breton, if the word were still seen as Latin.

2.1.2.2 Breton

In Old and Middle Breton, as in Welsh, the subjunctive is characterised by a morpheme *-h-*. The morpheme seems less well preserved in Breton than in Welsh, however. From the earliest attestations, it is only clearly present in the plural and impersonal forms of the present subjunctive. Consequently, forms such as 3sg. pres. subj. *admosoi*⁴⁷, ‘would (be) defile(d)’, gl. *qui*

⁴⁷ OBr. *admosoi* ← Proto-Brittonic **ate-mos-ahe-t(i)* < Proto-(Insular?)-Celtic **ate-mouss-ase-ti*. Fleuriot (1964:s.v. *admosoi*) suggests that Greek *μύσος*, ‘defilement’ is cognate, and reconstructs the root **meud-*. Chantaine (2009:s.v. *μύσος*) suggests further cognates in Low German *mussig*, ‘dirty’, and in Russian *múšliti*, ‘suck, drool’. Fleuriot gives Celtic cognates as MW *mws*, MC *mosek*, OIr. *mosach*, all ‘filthy, stinking’. It is difficult, however, to get from **meud-s-* (assumed to explain the final /s/) to the attested forms: the expected development would be **meud-s-* > PC **mouss-* > OIr. **mōs-*, later **muas-*; MW, MC **mus-*. We could work from a *∅*-grade **mud-s-*, and take *admosoi* as a denominative. If the noun were an *ā*-stem, Breton and Cornish *mos-* could be explained as from **mud-s-ā-* by final *a*-affection, but it must be conceded that there is little independent reason to propose such a formation.

inrogauerit maculam (Orléans MS 221, 12), without *-h-* morpheme, can be contrasted with 1pl. pres. subj. *guelhum*⁴⁸ in *cenit guelhum ni*, ‘although we see no longer’ (Angers Bibl. Mun. 477, 50r).

The OBr. imperfect subjunctive is attested only once, in the form *bline*, ‘(s)he becomes dazed’, glossing *stupesceret* .i. *hebesceret* (Vat. MS Regina 296, 37v, col 2). Although the sequence <nh> is found in OBr., its instances tend to form doublets with forms with <n> or <nn>, e.g. anthroponym *Uuinhic*, which has an alternative form *Uuinic*; similarly, *Caer Uuenheli*, ‘place of swallows’ vs. *guennol* gl. *herundo* (Paris BN, MS Lat. 10290, 25v). As Stifter (2010b) shows, the Proto-Celtic word for ‘swallow’ must be reconstructed as ** \acute{u} aNeLā/os*⁴⁹ to account for the Irish and Gaulish cognates of this word. There is consequently no etymological reason for the presence of /h/ in the form *Uuenheli*, suggesting that it is a hypercorrection, perhaps due to a sound change **VnhV* > *VnV*. As Schrijver (2011:40) notes, <h> is inconsistently written in early Brittonic, so it may simply have been omitted in *bline*, although the fact that <nh> is found in forms where it is not etymologically expected might still be indicative of the development **VnhV* > *VnV*. It is possible, therefore, that *bline* represents earlier **blinhe*, and that the OBr. imperfect subjunctive was generally characterised by *-h-*, despite its absence in the sole attestation of the category. This view is supported by the fact that the MBr. imperfect subjunctive regularly shows the *-h-* subjunctive marker in all persons, e.g. 1pl. *galhemp* ‘were we able’ (Lewis and Piette 1990:44). Although analogical extension of the morpheme from the present to the imperfect cannot be precluded, this seems unlikely given that already in OBr. the *-h-* marker was confined to the present subjunctive plural.

The following tables present the subjunctive paradigms of the regular verb *gallout*, ‘be able’, and of the irregular verbs *monet*, ‘go’ and *bout*, ‘be’ (based on Lewis and Piette 1990; Fleuriot 1964). Forms are Middle Breton unless otherwise labelled.

⁴⁸ Proto-Brittonic ** \acute{u} elahom-* < Proto-(Insular?)-Celtic ** \acute{u} el-ā-so-mosi*.

⁴⁹ Where **N* and **L* represent *fortis* or geminate consonants.

Table 2-11 Regular and Irregular Subjunctive

	Present	Imperfect		Present	Imperfect
1sg.	<i>guillif</i>	<i>galhenn</i>	1sg.	<i>iff</i>	<i>ahenn</i>
2sg.	<i>guilly</i>	<i>galhes</i>	2sg.	<i>y</i>	<i>ahes</i>
3sg.	<i>gallo</i>	<i>galhe</i>	3sg.	<i>y-el, y-elo</i> (OBr. <i>di-el</i>)	<i>ahē</i>
1pl.	<i>guelhomp</i>	<i>galhemp</i>	1pl.	<i>a(h)imp, ehomp</i>	-
2pl.	<i>galhet</i>	<i>galhech</i>	2pl.	<i>ehe(u)t</i>	<i>ahēch</i>
3pl.	<i>galhint</i>	<i>galhent</i>	3pl.	<i>aynt, a(h)int</i>	<i>ahent</i>
Impers.	<i>galher</i>	<i>galhet</i>	Impers.	-	-

Table 2-12 Subjunctive of *bout*

	Present	Imperfect
1sg.	<i>beziff, biziff</i>	<i>benn</i>
2sg.	<i>bezy, bizi</i> (OBr. <i>bidi</i>)	<i>bes</i>
3sg.	<i>bezo</i> (OBr. <i>bo, boh, po</i>)	<i>be</i> (OBr. <i>bei</i>)
1pl.	<i>bezimp, bizimp, bihomp</i>	<i>bemp</i>
2pl.	<i>bizhyt, bezot, bihet</i>	<i>bech</i>
3pl.	<i>biz(h)int</i> (OBr. <i>boint, bidint</i>)	<i>bent</i> (OBr. <i>bint?</i>)
Impers.	<i>bezher, biher</i>	-

2.1.2.3 Cornish

Unlike Welsh and Breton, Cornish does not attest a specific subjunctive suffix, be it *-h-* or any other. In the active singular there are distinct personal endings for the subjunctive, but otherwise the only other distinctive feature capable between the subjunctive stem and the indicative is the provection seen also in Welsh and Breton. Consequently, forms like 2sg. present subjunctive *lyttry* ‘you would steal’ are found, corresponding to 2sg. present indicative *leddryth*, ‘you steal’. Whereas Welsh and Breton attest verbs with a synchronically endingless 3sg. present subjunctive, such as Welsh *gwnech* and OBr. *di-el*, the regular ending *-o* is found in the 3sg. present subjunctive of almost all Cornish verbs. The only endingless subjunctive form in Cornish is *roy*, ‘may he give’ (LSM, l.75), although there are two 3sg. present subjunctive forms of this verb attested, and a reading as a 3sg. imperative is equally possible in the context where the form *roy* is found.⁵⁰

⁵⁰ *me a bys du karadow/ roy gynny ynta spedyā*, ‘I beseech loveable God, may he grant us well to speed’.

As with Breton, the forms given are from the verbs *galle*, ‘be able’, *mones*, ‘go’, and *bos*, ‘be’ (based on Lewis and Zimmer 1990).

Table 2-13 The Regular Subjunctive

	Present	Imperfect		Present	Imperfect
1sg.	<i>gyllyf</i>	<i>gallen</i>	1sg.	<i>yllyf</i>	<i>ellen</i>
2sg.	<i>gylly</i>	<i>galles</i>	2sg.	<i>ylly</i>	-
3sg.	<i>gallo</i>	<i>galle</i>	3sg.	<i>ello, ella</i>	<i>elle</i>
1pl.	<i>gyllyn</i>	<i>gallen</i>	1pl.	<i>yllyn</i>	<i>ellen</i>
2pl.	<i>gallough</i>	<i>galleugh</i>	2pl.	<i>ylleugh</i>	-
3pl.	<i>gallons</i>	<i>gallens</i>	3pl.	-	<i>ellens</i>
Impers.	<i>*galler</i>		Impers.	-	

Table 2-14 Subjunctive of *bos*

	Present	Imperfect
1sg.	<i>b(e)yf, beu</i>	<i>b(eth)en</i>
2sg.	<i>b(e)y</i>	<i>bes</i>
3sg.	<i>bo</i>	<i>be</i>
1pl.	<i>bbyn, beyn</i>	<i>be(y)n</i>
2pl.	<i>b(y)ugh, be(u)gh</i>	<i>beugh</i>
3pl.	<i>bons, byns</i>	<i>bens</i>
Impers.	<i>bether</i>	-

2.2 Diachrony

2.2.1 The *s*-subjunctive

Although the *s*-subjunctive is synchronically unproductive in the Insular Celtic languages, the presence in Irish and Welsh of subjunctives characterised by **-s-*, e.g. MW *gwares*, OIr. *fo-ré*, ‘help’ < **u̯o-ret-s-*, suggests that it was productive at an earlier stage, and supports the reconstruction of the category for Proto-Celtic. The MW forms *duch*, ‘lead’, and *gwnech*, ‘do’, also clearly correspond phonologically to the OIr. *s*-subjunctive of velar-final roots, with final *-ch-* < Proto-Brittonic **-χ-* < Proto-Celtic **-χs-*, cf. Welsh *chwech*, ‘six’ < **sueχs*.

A connection between the Indo-European sigmatic aorist and the Irish *s*-subjunctive has been entertained since at least Thurneysen (1892). It is now widely accepted that the *s*-subjunctives of Irish and Brittonic reflect the subjunctive of the Indo-European *s*-aorist (McCone 1991:63ff; Schumacher 2004:49ff; Stüber 2017:1213), although other proposals have taken it as reflecting

an unreduplicated desiderative (Rix 1977); the Proto-Indo-European *s*-aorist itself (Watkins 1962); or an Indo-European athematic *s*-subjunctive (Kortlandt 1984). As seen already (1.3.3.2), evidence for a Proto-Indo-European unreduplicated desiderative is lacking, since the unreduplicated Greek future tense is probably better explained as continuing the short-vowel *s*-aorist subjunctive. Consequently, it is simpler to identify the reduplicated future of the type *bebaid*, ‘will go’ < **g^{ui}-g^{uh}₂-se-ti* as the only reflex of the desiderative in Celtic, and to treat the subjunctive as a separate formation. As will be seen below, since most of the evidence favours a thematic *s*-subjunctive, this also precludes a derivation directly from the *s*-aorist or from an Indo-European athematic *s*-subjunctive.

2.2.1.1 Ablaut

Most of the evidence for the *s*-subjunctive unequivocally favours reconstructing an *e*-grade root. This is seen in both OIr., e.g. 1pl. *gesmi*, *-gessam* < PC **g^{ue}d-so-mosi* ← Quasi-PIE **g^{uh}ed-so-me-*, and MW *gwares* < PC **u^o-ret-se-ti*. MW *duch* probably also reflects an *e*-grade (PIE **de^uk-se-ti* > PC **do^ux-se-ti*), since *o*-vocalism in verbal roots is generally confined to perfect and iterative-causative forms in Indo-European. Instances in OIr. with apparent *a*-vocalism, e.g. *ni-aclais*, ‘you may not hunt’ (*CIH* II:767.4), are attributable either to a laryngeal in the Indo-European root – likely in this case (*KPV*:410)⁵¹ – or to remodelling on the basis of the present stem (*KPV*:49, n.39). The Irish and Brittonic evidence consequently demonstrates the presence of *e*-vocalism in the Proto-Celtic *s*-subjunctive.

2.2.1.2 Thematic or Athematic?

Both Watkins (1962:162) and Kortlandt (1984) contest that the Irish *s*-subjunctive was originally athematic, and underwent sporadic thematisation, generating the mixture of thematic and athematic material in the paradigm. Most of Watkins’ arguments that the Irish *s*-subjunctive cannot be identified with the *s*-aorist subjunctive have been superseded by McCone (1991), particularly those relating to the formation of the *ā*-subjunctive (2.2.2). Kortlandt, for his part, reconstructs an athematic *s*-subjunctive from Irish, Balto-Slavic, Italic, and Tocharian data, without once mentioning the Welsh evidence.

Paraphrasing Watkins and Kortlandt, the case for an athematic *s*-subjunctive is as follows. OIr. 3sg. *geiss*, *-gé* cannot regularly reflect a thematic form PC **g^{ue}d-se-ti*, as this would yield OIr. **gessid*, **-geiss*. Since for Watkins the 3sg. is “the basic member of the paradigm”, he supposes that it preserves the most archaic formation, and that the other persons must have innovated based on the 3sg. form. That the Brittonic evidence for the *s*-subjunctive can only reflect a thematic form is critically problematic to the idea that the OIr. 3sg. reflects an athematic *s*-aorist or *s*-subjunctive.

⁵¹ Both **eh₂* and **eh₃* yield Irish /ā/ in an initial syllable.

Proto-Celtic **ureg-s-ti* with a primary ending would yield MW **gwnes* (**VTsTV* > **-VssV-*, cf. MW *tes*, ‘heat’ < **teχstus* < **tepstus*), and **ureg-s-t* with a secondary ending would yield **gwneith*, with loss of **s* in word-final sequences of **χst* in at least Insular, if not Proto-, Celtic (cf. *s*-aorist **h₃rēg-s-t* > MW *-reith*, ‘arose’, McCone 1991:68).⁵² Instead, *gwnech*, *duch* and the like must reflect thematic forms to account for the retention of final /χ/ < **-VχsV-* (cf. Jasanoff 1994:202). Jasanoff (loc. cit.) also notes that the OIr. reflexes of the *s*-subjunctive imply an earlier thematic form, since athematic **ad-reg-s-ti* would produce OIr. **at-recht*, ‘he may arise’, as in the *s*-aorist *at-recht* < **ad-reg-s-t*, rather than attested *at-ré* < **ad-reh* < **ad-ress* ← **ad-resset* < **ad-resseti*. This point is less compelling, however, since if – as assumed directly above – the

⁵² Jasanoff (2012b:132–34) suggests that the Insular Celtic *t*-preterite continues a Proto-Indo-European imperfect with “Narten” ablaut, marginalised within PIE and reinterpreted as a “narrative preterite”, then an aorist, e.g. **bh₂er-t* > PC **b₂irt* → OIr. *birt*, *-bert*. His principal argument is that “[o]f the nineteen ordinary *t*-preterites in Old Irish, not a single one can be unambiguously traced to a PIE *s*-aorist”, but this is a case of *obscurum per obscurius*. Apart from the fact that this fails to explain – or even acknowledge – the distribution of the *t*-preterite exclusively to roots with a final resonant or velar, it is anyway an unconvincing argument, since the *s*-aorist was clearly sufficiently productive in Proto-Celtic to become the basis of the *s*-preterite, which became the productive preterite formation in both Brittonic and Goidelic (Watkins 1962:174–80), and possibly in Gaulish (Lambert 2003:66). There is no reason to suppose that the *s*-aorist was not sufficiently widespread within Proto-Celtic to allow it to underlie the Insular Celtic *t*-preterites, particularly when eleven of the roots with OIr. *t*-preterites have a root-final resonant, where the development **(V)Rst* > **(V)Rt* is known to be regular from forms such as OIr. *tart*, ‘thirst’ < **t₂rs-tu-*. Although Jasanoff (2012b:n. 26) is correct to say that “it is far from certain that **-g-s-t*/**-χst* would have given **-χt* in Insular Celtic”, that most *t*-preterites in Insular Celtic can be explained as regular reflexes of *s*-aorists to resonant-final roots should swing the balance of probability in favour of treating them as such, rather than reconstructing a new Indo-European category for a handful of roots, the evidence for whose “Narten” behaviour as a lexical feature is anyway disputable (Kümmel 1998; Melchert 2014). Jasanoff’s forms more generally (2012b:129) are not even all consistent with the reconstruction of “Narten” ablaut, e.g. TA 3sg. mid. impf. *pārat* < **bh₂er(a)to*, 3pl. *pārant*. Verbs with “Narten” ablaut are reconstructed as having **ē* in the active singular and **ĕ* in the plural and throughout the middle, so by deriving TA *pārat* from a “Narten” formation, one implicitly accepts that the *ē*-grade was generalised from the active singular to the middle singular and plural, and then lost in all other forms. One might finally note that “OLat. *surēgit*” (sic. Jasanoff 2012b:133) is attested only in Paulus Diaconus’ late 8th century epitome of Sextus Pompeius Festus’ 2nd century *De verborum significatu*, and simply says “*suregit et sortus pro surrexit, et quasi possit fieri surrectus, frequenter posuit Livius*”. Throughout the glossary, *Livius* refers to both the early Imperial historian Livy (e.g. *Paul. Fest.*:385), and the OLat. poet Livius Andronicus (*Paul. Fest.*:408), both incompletely preserved. Consequently, even if the form is not spurious it is hardly securely OLat., and could anyway have been formed by analogy with *lēgi*.

Proto-Celtic intervocalic reflex of *-TsT- is *-VssV- (cf. OIr. *tess*, ‘heat’ < **tepstus*), Proto-Irish **ad-ressi* would regularly yield **ad-ress* > **ad-reh* > **at-ré*. The Brittonic evidence for the thematic *s*-subjunctive is clear, however, so it can safely be concluded that the 3sg. *s*-subjunctive reflects a thematic formation, which was presumably recharacterised in OIr. to reduce inflectional variation between the *s*-subjunctive and *s*-preterite (McCone 1991:71–76).

Kortlandt’s argument is more involved, drawing attention to the absence of the expected *u*-infection in the 1sg. **gessu*, *-ges* as a result of the 1sg. thematic ending *-*ū*, cf. indicative *biru*, *-biur* < PC **berū*, leading us to expect conj. ^x-*gius*, or similar. This objection is unfounded, however, since *u*-infection of stressed **e* would not be expected across Proto-Irish *-*ss-*, as can be shown by the forms *mes*, ‘judgement’, (nom. sg.) < **méssuh* vs. *tomus*, ‘measurement’, (nom. sg.) < **tóvēussuh* < **tó-messus* (McCone 1996b:112). Since the root syllable of a deuterotonic conjunct form was stressed, 1sg. *-ges* is phonologically regular. Moreover, the expected *u*-affection is found in the compound *do-guid*, ‘asks pardon’, which attests a 1sg. subjunctive *dorrogus* in the *Lebor na hUidre* at 6b20 (Best and Bergin 1929:l. 427). There is no real case to be made, therefore, for an athematic *s*-subjunctive in Proto-Celtic. The 3sg. cannot regularly reflect an athematic formation, and in fact the attested 3sg. forms imply an earlier thematic formation. Kortlandt’s objections regarding the 1sg. are phonologically unfounded, and are falsified by the attested forms.

2.2.1.3 Conclusions

The Irish and Brittonic attestations of the *s*-subjunctive support the reconstruction of an *e*-grade, thematic *s*-subjunctive in Proto-Celtic. That the category is unproductive in both branches, being encroached upon by the *ā*-subjunctive in Irish and the *h*-subjunctive in Brittonic, suggests that it is the more archaic subjunctive morpheme in these languages, again supporting its reconstruction for Proto-Celtic, despite its limited attestation.

2.2.2 The *ā*-subjunctive

For much of the time since the Celtic languages’ recognition as Indo-European, the Irish *ā*-subjunctive has been considered cognate with the Italic *ā*-subjunctive (e.g. Latin *ferās*), and treated as one of a small number of isoglosses between Celtic and Italic implying the existence of a Proto-Italo-Celtic parent language. The idea of comparing the formations originated with Zeuss’ statement (*GC*, 440): “Coniunctivus temporis praesentis, insignis vocali *a*, ..., comparandus [est] cum coniunctivo latino...”. If the forms are considered cognate, there are two possible explanations. The first is that they are a shared retention from Proto-Indo-European, which the other dialects have lost. In this case, a period of Italo-Celtic common development is not required: the archaism could have been preserved separately in each branch, perhaps aided by their

geographical proximity.⁵⁴ The other is that they are a shared Italic and Celtic innovation, which would suggest that the branches underwent a period of common development. The final possibility is that they are not cognate, representing a random convergence.

Prior to the discussion of the Irish and supposed Brittonic evidence for this category, it should be noted that only Irish among the Celtic languages securely attests an \bar{a} -subjunctive. The Brittonic languages instead attest the h -subjunctive. Gaulish and Celtiberian forms will be discussed in Chapter 4, where it will be seen that they provide little evidence for the category in Proto-Celtic.

2.2.2.1 Ablaut

As with the s -subjunctive, most \bar{a} -subjunctives of inherited verbal roots show e -vocalism, e.g. 3sg. subj. *beraid*, *-bera*. Since the \bar{a} -subjunctive is the productive formation in the language, it also forms the subjunctive of derived verbs, meaning that forms with other vocalisms are found, such as denominal *marbaid*, 'kill'. Nonetheless, it seems that if we reconstruct an \bar{a} -subjunctive for Proto-Celtic, it would have e -vocalism.

2.2.2.2 The $-\bar{a}$ - morpheme

Although the Celtic \bar{a} -subjunctive has historically been held as cognate with the similar formation in Italic, there has long been reason to doubt this theory. In particular, its complementary distribution with the s -subjunctive, based on the quality of the root-final consonant, cannot be accounted for if the \bar{a} -subjunctive is an Italo-Celtic isogloss. Simply put, there is no intrinsic reason for \bar{a} -subjunctives not to have been formed to roots in final dentals, velars or /nn/, if it had been inherited as a discrete morpheme, rather than generated within Celtic by regular sound-change. This contradicts Watkins' assertion (1962:132) that the s -subjunctive is the younger of the two, having been created by the "displacement" of inherited s -aorist injunctive forms to the modal plane.

The case for an Italo-Celtic \bar{a} -subjunctive was considerably weakened by two major pieces of work in the twentieth century. First, Rix (1977) suggested deriving the OIr. \bar{a} -subjunctive from the Proto-Indo-European desiderative, reconstructed as $*-h_1se/o-$.⁵⁵ As mentioned above (1.3.3.2; 2.2.1), the desiderative is a poor formal fit with the \bar{a} -subjunctive, however, since it is characterised in both Indo-Iranian and Celtic by reduplication and a \emptyset -grade root, and evidence for unreduplicated desideratives is lacking. Nonetheless, Rix's reconstruction was accepted by

⁵⁴ The retention of instrumental case forms in $*-m-$ in Germanic and Balto-Slavic is comparable: there is little reason to postulate a "Proto-Germano-Balto-Slavic" based on these forms.

⁵⁵ He also suggests that this suffix underlies the s -subjunctive, with loss of $*h_1$ after stops as in Greek. This seems difficult to motivate phonologically, which is a weakness of his theory *vis à vis* McCone's.

some, including Kortlandt (1984:182). For his part, Kortlandt observes that the traditional comparison of OIr. *-ber*, *-berae*, *-bera* with Latin *feram*, *ferās*, *ferat* is phonologically untenable, given that **b^herām*, **b^herās*, **b^herāt* would have yielded OIr. *^x-beir*, *^x-bera*, *^x-ber*. His interpretation of the 3sg. assumes an early loss of final dentals, which is not generally accepted: in fact, attested *-bera* regularly reflects Primitive Irish **berāt* without difficulty. His account of the 1sg. and 2sg. appears to hold, however.

Rix's argument was later adopted and developed by McCone (1991:85–113), who convincingly explains the *ā*-subjunctive as a reflex of the *s*-aorist thematic subjunctive of inherited roots of the shape **CERH*, with subsequent generalisation to all roots not ending in a dental or velar stop or /nn/. His argument is that in such roots the sequence **CERH-se-* > **CERǎ-se-* would have undergone reanalysis to **CER-ǎse-*, and the reanalysed suffix thus spread to roots without a final laryngeal. McCone thus avoids the morphological difficulties of Rix's explanation, including explaining the lack of reduplication and the split of the desiderative into two Irish categories. Furthermore, both Rix's and McCone's theories explain the distribution of the *s*- and *ā*-subjunctives better than an account taking the *ā*-subjunctive as inherited. They establish two subjunctive suffixes, **-se-* and **-ase-*, which, when the latter suffix was generated, have a clearly motivated distribution. The **-se-* suffix is retained in circumstances where it assimilates with the preceding consonant without the morphologically distinctive **-s-* being lost. The **-ase-* suffix, generalised from forms such as **melh₂-se-*, spread to roots where the assimilation of **-se-* to the root-final consonant would have obscured the morphology, e.g. **g^uher-se-ti* > **g^uer-se-ti* > **g^uerreti*⁵⁷ → **g^uer-ase-ti* > OIr. **geraid*, *-gera*, 'heat'. It is only subsequent sound-changes, i.e. **-ase-* > **-ahe-* > **-ā-*, that obscure the relationship between the two suffixes.

⁵⁷ I would thank Prof. David Stifter for correcting me on a matter of historical phonology here. I previously considered the possibility that **g^uer-se-ti* might yield **g^uireti*, on the basis of OIr. *tír*, seemingly < **terso-* or similar, cf. Oscan *terúm*, Latin *terra*. It appears, however, that **VRsV* produced PC **VRRV*, e.g. OIr. *carr*, Gaulish *carrus*, 'cart' < **karros* < **karsos* < **k₂rsos*. A further thought on OIr. *tír* might be merited. Although NIL (701–703) tentatively takes OIr. *tír* as from an acrostic *s*-stem **tér_s-es-*, it must be said that this would be the only *ē*-grade formation to this root throughout Indo-European: all other forms attested readily derive from the regular apophonic variants **ters-*, **tors-* and **t₂rs-*. It seems uneconomical to postulate a single *ē*-grade formation to account for forms in just one branch of the family. We might account for OIr. *tír* (neuter *s*-stem) and OW *tir* (masculine) by postulating a PIE animate root-noun with nom. sg. ***ters-s* > **tér_s/*tēr* (cf. **ph₂tēr* < ***ph₂ters*), acc. sg. **ters-ṃ*, gen. sg. **t₂rs-os*, which was remodelled in the daughter languages. Celtic may have preserved the root noun, but in Irish it becomes reinterpreted as a neuter *s*-stem, perhaps due to semantically related forms such as *nem*, 'heaven', *mag*, 'plain', *slíab*, 'mountain', *glenn*,

The Rix-McCone model renders the Celtic form incompatible with a Latin reflex as $-\bar{a}$ -: $*-Hse-$ yields Latin $-are-$. It is, however, more compatible with the Brittonic h -subjunctive, which is otherwise difficult to explain diachronically.

2.2.2.3 The Brittonic h -subjunctive

As seen in the survey of synchronic data above, Brittonic attests an h -subjunctive, which regularly causes protraction of a preceding voiced consonant, even if $/h/$ itself is not written. Salient examples are MW 3sg. *carho*, MBr. 1pl. *guelhomp*, MCo. 2sg. *lyttry*, all showing either the $-h-$ itself or the protraction it causes. In Brittonic, Proto-Celtic $*s$ regularly develops into $/h/$ (Stifter 2017:1200–1201), making it reasonable to seek a connection between this $/h/$ and the $/s/$ of the Irish s -subjunctive. If the two were directly equivalent, however, i.e. $*-h- < *-se-$, we should expect to find contraction between the s -suffix and root-final consonants, which is simply not found. Rather, we must reconstruct a morpheme $*-V_1sV_2-$ $>$ $*-V_1hV_2-$, with protraction of root-final consonants resulting from syncope of $*V_1$ bringing $/h/$ into contact with them.

McCone himself (1991:98ff.) proposes to connect the Brittonic h -subjunctive and the Irish \bar{a} -subjunctive, and notes that the h -subjunctive – like the Irish \bar{a} -subjunctive – spread at the expense of the s -subjunctive, again pointing towards a relatively recent origin. Although some of McCone’s historical phonology has validly been questioned, particularly by Jasanoff (1994), Zair (2012b) has more recently clarified the developments of the suffix $*-ase-$ in Brittonic, showing the attested forms to be produced by regular phonological and well-motivated analogical developments. The connection between the Irish \bar{a} -subjunctive and the Brittonic h -subjunctive can consequently be accepted with some confidence, and seems to support a reconstruction of a Proto-Celtic subjunctive in $*-ase/o-$, alongside simple $*-se/o-$. Only one objection remains to this theory, to which we now turn.

2.2.2.4 Middle Welsh *el*, Old Breton *diel*, Middle Cornish *ello*

Once the Irish \bar{a} -subjunctives are explained as a result of phonologically regular developments from $*CERH-se-$ roots, with subsequent extension of the new morpheme, very little evidence remains for the \bar{a} -subjunctive as a Proto-Celtic category. The Brittonic h -subjunctive, as shown by Zair (2012b), can largely be regularly derived from the Proto-Brittonic subjunctive-future morpheme $*-\check{a}s^e/o-$, with $*-\bar{a}s^e/o- < *-CRH-s^e/o-$ and $*-\check{a}s^e/o- < *-CH-s^e/o-$. Although Jasanoff (1994) claims that the $*-\bar{a}$ - of the Proto-Brittonic subjunctive-future is an “ \bar{a} -optative” morpheme, cognate with the Latin \bar{a} -subjunctive, this appears unnecessary in the light of Zair’s phonological explanation, particularly since Jasanoff is forced to derive the $*-\check{a}s^e/o-$ allomorph secondarily

‘valley’, as suggested in *NIL* (702). This remodelling might have been Proto-Celtic: the Brittonic loss of neuter gender and most nominal inflection means that we cannot know if OW *tir* was once neuter.

within Proto-Brittonic to account for the *h*-subjunctives of that branch. Only one Brittonic example adduced by Jasanoff defies explanation through regular phonological developments, either from **-ǎs^e/o-* or the simple **-s^e/o-* suffix seen in e.g. MW *gwares* < **u^o-ret-se-t(i)*. This is the irregular 3sg. subj. of MW, MCo. *af*, MBr. *aff*, ‘I go’, namely MW *el*, OBr. *(di-)el*, MCo. *ello*, the Welsh and Breton forms of which are taken by Jasanoff (1994:203–4) as proof of the existence of a Proto-Italo-Celtic subjunctive morpheme **-ā-*, deriving *el* < Proto-Celtic **(φ)el-āt*. While superficially an attractive proposition, it is not unimpeachable. Jasanoff is correct that *el* cannot be derived from **el-ase-* by regular sound change, the hypothetical development of which is detailed below, but claiming that this requires the existence of an Italo-Celtic *ā*-subjunctive is a substantial logical leap.

At first glance, one might be tempted to take the synchronically regular MCo. form, *ello* as reflecting the inherited form, and attempt to explain the Welsh and Breton forms as developments from earlier **elho* < **φel-ǎs^e/o-*. This approach is taken by Schumacher (KPV:503, 507(d)), who reconstructs the Proto-Celtic stem as **φel-ǎs^e/o-*, and claims that MW *el*, OBr. *di-el*, are not archaisms, but built by analogy to other endingless forms such as MW *duch* < **deuk-se-ti*, *gwnech* < **u^{reg}-se-ti*, *gwares*. Although Schumacher does not date the analogical transformation, it must be assumed that he envisions it occurring not only after Welsh separated from South-West British (the common ancestor of Breton and Cornish), but also after the separation of Cornish and Breton, to account for the retention of MCo. *ello* ← **elo*. Considerations of reconstructive economy therefore suggest that it is best to treat the irregular MW *el* and OBr. *díel* as the archaic forms, and MCo. *ello* as the innovatory regularisation, based on the regular subjunctive in *-(h)o*, particularly since we find forms such as MBr. *y-elo*, suggesting that the same development from *-el* to *-elo* occurred in the documented history of Breton as took place in Cornish.

Moreover, not only is Schumacher’s proposed analogy difficult to motivate at any stage of Welsh or Breton, but it is even more difficult to believe that the same analogical development could have taken place separately in both languages. First, for the sake of the argument, let us explore the possibility of the analogical change taking place within Proto-Brittonic. It must be noted at the outset, that given the limited distribution of the *s*-subjunctive in the surviving Brittonic languages, it may already have been a category on the decline within Proto-Brittonic, being replaced by the suffix **-ǎs^e/o-*. Moreover, as discussed further below, regular sound change would already have caused the **-s^e/o-* subjunctive to split into two morphemes, **-χ^e/o-* and **-s^e/o-*, which would not have been immediately identifiable with each other, making them a weak source for analogical remodelling. Although speakers do not always use the most common formations in their

languages as the basis for analogy,⁵⁸ it stretches credulity to suggest that a fairly marginal and heterogeneous category could have exerted analogical influence on a regular Proto-Brittonic **elāseti*, which, in conjunct position, should have developed as **elāseti* > **el̥het* > **el̥h* > **elo* (with **s̥* > *o* / *_h*, following Zair 2012b:99) → O/MBr. **eloi*; MW **elho*.⁵⁹ For comparison, the developments leading to MW (conjunct) *duch* would be Proto-Celtic **douχseti* > Proto-Brittonic **düχet* (*i*-apocope, **χs* > **χ*, **ou* > **ō* > **ū* > **ü*) > MW *duch*.⁶⁰ There appears to be little reason why the more formally-distinct productive formation in **-ǎse/o-* should have been replaced by the **düχet*, **-resset* type, which already in Proto-Brittonic would have been morphologically irregular, being characterised in velar-final roots by **χ*, and in dental-final roots by **s*. There were essentially three subjunctive stem-classes in Proto-Brittonic: the regular **-ǎse/o-* type, and then those in **-χe/o-* and **-se/o-*. An analogical development **el̥het* → **el(s)et* in Proto-Brittonic, based on **düχet* or **-resset*, is consequently unlikely.

We must, therefore, preclude Schumacher's analogical change occurring in Proto-Brittonic, which he rules out himself by assuming that MCo. *ello* reflects more closely the regular development to **elo*. There is little reason, however, to believe that such a change could have occurred in the individual Brittonic languages, either. In Welsh and Breton, the root *el-* is suppletive to the root **ag-* < **h₂eġ-*, with 3sg. ind. MW, MBr. *a*. This makes it difficult to set up a four-part analogy between it and the verbs with 'endingless' subjunctives, e.g. MW *dwc* : *duch* :: *a* : X. A proportional analogy could be established more easily in OW before the loss of /γ/ (<g>), where the forms in question would have been *dwc* : *duch* :: **eg*⁶¹ : X, but then we would expect the analogy to yield **ach*, replacing **elo*. We might justify an analogical remodelling from OW **eg* ~ **elo* → **eg* ~ *el* on the basis of *dwc* ~ *duch*, **ryret* ~ *ryres* on semantic grounds, since all three verbs are related to movement, but this is again a weak motivation to replace synchronically regular **elo* with *el*. It seems unlikely, therefore, that there were any grounds for an analogical change **elo* → *el* in the OW or MW periods. Curiously, as Schumacher correctly notes (KPV:711(d)), in MW there is analogical influence in the other direction, with forms such 3sg. subj. *gwnel* replacing *gwnech* on the basis of the four-part analogy *a* : *el* :: *gwna* : X → *gwnel*. Again, this would suggest that the analogical influence of the *gwnech* type was quite limited.

⁵⁸ Cf. English past tense formations such as *dove* to present tense *dive*, by analogy to the ablauting past *drove* to present *drive*, for example.

⁵⁹ In absolute position, the developments would have been (similarly counterfactual) **elāseti+* > **el̥shéti* (**VsV* > **VhV*) > **el̥shídi* (*i*-affection) > **el̥šídi* (**Vhi* > **Vii*) > **el̥šiid* (apocope) > OW **eloit*.

⁶⁰ **ūreg-se-ti*, would develop as **ūreχseti* > **ūreχet* > **g^ureχ* → MW *gwnech*, MBr. *gr(o)ay*, *greay* (see below), *grayo*; similarly **ūo-retseti* > **ūa-resset* > MW *gwares* (apocope, **#ū* > *g^u*).

⁶¹ Conjunct corresponding to OW 3sg. abs. *hegit* / *eyid*/.

The analogy is similarly difficult to motivate in Breton. As in Welsh, the inherited core of endingless 3sg. subjunctives appears to have been very small. The only OBr. endingless subjunctive attested is *díel* itself,⁶² making it impossible to assess how well the other forms were preserved into Breton. According to Schumacher (KPV: s.v. **ret-e/o-*), only descendants of the present and (remodelled) reduplicated perfect stems of PC **ret-* are found in Breton, suggesting that the subjunctive **ress-* did not survive into the language. The only apparent survival of the Proto-Brittonic irregular 3sg. subjunctives is MBr. *gr(o)ay*, *greay*, corresponding to 3sg. ind. *gr(o)a*, ‘does, makes’, cognate with OW 1pl. impv. *guragun*, ‘let us do’. This form is not included in Schumacher’s collection of the attested forms of this root (KPV: s.v. **ureg-e/o-*), but is attested in the 15th century drama *Le grand mystère de Jésus* (Stokes 1867:161). It can derive regularly from Proto-Brittonic **ureχet* > SWBrit. **ureχ* > Primitive Breton **g^ureaχ*, with a *sandhi* variant **g^urea*, as seen also in OBr. *hue* vs. MBr. *huech*, both ‘six’ < PC **s^ueχs*, cf. Welsh *chwe*, *chwech*, ‘id.’. The variant *gray* is then explicable either as a later development from **grea(χ)*, since, according to Jackson (1967:98–99), there was sometimes a change **-eaχ* > *-aχ*, or as an analogical extension of the indicative stem *gr(o)a*. The regular ending was then added, giving *grayo*, again indicating how pervasive the regular formation was, undermining the credibility of a development **elo* → *el*. This is further shown by the existence of MBr. *dougo* /*dugo*/ ← SWBrit./OBr. **duχ*, suggesting that irregular, endingless subjunctives were transferred to the productive class with 3sg. *-o*. In Breton, then, as well as in Welsh, Schumacher’s analogy is untenable.

Since an analogical explanation of this type for *el* cannot be accepted, it is necessary to seek another. Jasanoff’s proposal, that *el* derives directly from a Proto-Brittonic **elāt*, an *ā*-subjunctive cognate with the Italic formation, is initially appealing, but problematic. In his first examination of the issue (1983:75ff.), he explained the Italo-Celtic *ā*-subjunctive as an “**h₂*-aorist conditional” of the thematic subjunctive, in its function as a quasi-future tense, comparing it with e.g. Italian *leggerebbe*, ‘would read’ < *legere habuit*, alongside *leggerà*, ‘will read’ < *legere habet* (Jasanoff 1983:78–79). This reconstruction rests on the idea, put forward in the same paper (1983:61–62), that Proto-Indo-European had an *h₂*-aorist, to which he attributes forms such as TB *śarsa*, A *śārs* ‘knew’ < **kers-h_x-t*, and Vedic *agrabhīt* ‘grabbed’ < **h₁e-g^hreb^h-h_x-t*. Since these roots, alongside others with aorists in TB 3sg. *-a*, Vedic 3sg. *-it*, do not reflect a laryngeal in other forms, Jasanoff suggested that the laryngeal here was in fact an aorist morpheme, rather than an element of the root, and identified the laryngeal as **h₂* due to the aspiration of final stops in Vedic, e.g. 3sg. aorist injunctive *máthīt*, ‘snatched away’ < **met-h₂-t*, according to Jasanoff (1983:61). According to LIV² (442–43), however, Vedic *máthīt* reflects a root **meth₂-*, with a nasal present *mathnáti* ←

⁶² Glossing *quid... esset euenturum* (MS Angers 477, 52r).

**mt-né-h₂-ti*, with analogical /th/ on the basis of the aorist and perfect *mamátha* < **me-moth₂-e*. It is better, therefore, to treat *agrabhīt*, *mathīt*, etc., as root-aorists to laryngeal-final roots (cf. 1sg. *agrabham* < **h₁e-g^hreb^hh_x-m̃*).

Although no specific reason is given, perhaps such objections led Jasanoff (1994:n. 6) to abandon his *h₂*-aorist theory. Nonetheless, he maintains that the Italo-Celtic *ā*-subjunctive should be considered a “conditional”, formed by the addition of a past tense morpheme to the thematic subjunctive (1994:201; 2009:n. 41). It is unclear what Jasanoff believes this morpheme was, however, if not **-h₂*. In Jasanoff (1994:201), he says that it “[incorporates] a tense sign otherwise attested in the *ā*-preterites of Balto-Slavic and Tocharian”. The likelihood of this is limited somewhat by the lack of evidence in Italic and Celtic for an *ā*-preterite of the type Jasanoff suggests for Balto-Slavic and Tocharian, i.e. **-eh₂*. The only possible *ā*-preterite isogloss between Italic and Celtic is Latin *erat*, OW *oid* (cf. OBr. *oi*), which have traditionally been derived from **esāt* (Jasanoff 1983:77; Watkins 1962:149–50; VKG 1:73, 2:430). As Schumacher (*KPV*:317) notes, however, the regular reflex of **(-)esā* in Brittonic is **-i*, as in MW *tei*, ‘houses’ < **tegesā*, cf. OIr. *tige* ‘id.’, also < **tegesā*. We should therefore expect OW *xi* < **ehō* < **esāt*. Schrijver (1999:270–71) instead suggests deriving OW *oid* < **ēδ* (presumably < **eji* < **ehid*) < **esīd* < **h₁es-eh₁-t*, the preterite being formed with the suffix **-ī-* attested also in the preterite of *gwybot* ‘to know’, e.g. 1sg. *gwydywn*,⁶⁴ and, according to Schrijver, also in Greek ἴδην, ‘knew’ < **h₁e-uejīd-eh₁-t*. Although this explanation requires the acceptance of a Brittonic sound change **-esī* > **-oid*, for which there is not much direct evidence (cf. Schrijver 1995:394–96), it is more acceptable than the phonologically incorrect derivation from **esāt*. Given that this is the only evidence adduced for a Celtic *ā*-preterite, it seems unlikely that the category, if it existed at all, could be underlie the *ā*-subjunctives in Celtic.

Apart from the absence in Celtic of any evidence for an *ā*-preterite,⁶⁵ which might underlie the “conditional” forms Jasanoff (1983:78–79) suggests developed into the Italo-Celtic *ā*-subjunctive, his explanation of MW *el*, OBr. *diel*, etc, suffers considerable theory-internal weakness. Jasanoff (1994:208–10) suggests that, despite its synchronic irregularity, Proto-Brittonic **elāt* was a regular *ā*-subjunctive, cognate with both the Italic and Irish *ā*-subjunctives. The principal problem with this formulation is that Jasanoff is consequently forced to derive the regular, productive **-ā^{se}/o-* suffix secondarily within Proto-Brittonic, by adding the inherited **-s^e/o-*

⁶⁴ The ending *-wn* is synchronically regular, but the preceding element, *-y-* < **-ī-* < **-eh₁*(?) is not. The same element is found in 1sg. MBr. *goyzyen*, MC *gothyen*.

⁶⁵ Evidence is also scarce for Italic, essentially limited to the Latin imperfect in 3sg. *-bat* (< **-b^hueh₂-t*, with aberrant full grade of the root); the imperfect *erat*, mentioned above alongside OW *oid*; and forms such as Oscan *fufans*.

subjunctive morpheme to the Italo-Celtic $*\bar{a}$ - morpheme. While this is possible, many of the same objections apply to this theory as to Schumacher's analogical explanation of MW *el*, OBr. *diel*. As already shown, the available evidence points towards the conclusion that the $*-s^e/o-$ subjunctive type was already declining within Proto-Brittonic, particularly motivated by the fact that it would have split into two allomorphs at an early stage of Proto-Brittonic – $*-\chi^e/o-$ ($< *-\chi s^e/o-$) and $*-s^e/o-$ – due to regular phonological change. It seems unlikely, therefore, that there was still a coherent, let alone productive, morphological class of subjunctives in $*-s^e/o-$ in Proto-Brittonic.⁶⁶ To suggest that an apparently productive $*\bar{a}$ - suffix should have been remodelled to $*\bar{a}s^e/o-$ on the basis of a moribund category stretches credulity. In fact, if such a change were to happen at any stage, one might expect it to be before the separation of Irish and Proto-Brittonic, given that the large number of *s*-subjunctives in Irish suggests that the $*-s^e/o-$ suffix was significantly more productive at this point.⁶⁷

Alongside the unlikelihood of recharacterising inherited $*\bar{a}$ - with $*-s^e/o-$ due to the general recession of the $*-s^e/o-$ type, there is also a fundamental, phonological objection to be raised to Jasanoff's theory of the development of Proto-Brittonic $*\bar{a}s^e/o-$. Jasanoff states (1994:208–9) that the motivating factor for the recharacterisation was the loss of intervocalic $*-j-$. He claims that weak present tense stems, e.g. those in $*-\bar{a}j^e/o-$ and $*-ej^e/o-$, originally formed \bar{a} -subjunctives, of the type OIr. *-marba* $< *-\bar{a}t < *-\bar{a}j\bar{a}t$, *-léicea* $< *-\bar{i}j\bar{a}t < *-\bar{e}j\bar{a}t$, Latin *moneat* $< *-\bar{e}j\bar{a}t$. Phonologically, these reconstructions would produce the attested forms, as both Irish and Italic display the loss of intervocalic $*-j-$. In Irish the loss affects all environments, e.g. *óac*, 'young' $< *j\bar{u}j\bar{a}nko-$. Brittonic, however, quite clearly preserves $*j$ in both initial and medial environments. Initially it is simply preserved, cf. MW *ieuanc* $< *j\bar{u}j\bar{a}nko-$. Medially it undergoes a split, developing into $*\delta$ after stressed $*e$ and $*i$, cf. W *newydd*, MCo. *noweth*, Br *nevez* $< *no\bar{u}j\bar{i}o-$, and being retained as $*j$ otherwise. Evidence for the development of Brittonic $*-\bar{a}j\bar{a}$ - is lacking, but there is no reason to assume that $*-j-$ would have been lost intervocalically in this environment alone. The result of Proto-Celtic $*-\bar{a}j\bar{u}$ -, which might have had a comparable history, is attested in Brittonic in MW

⁶⁶ Similarly, Jasanoff's convoluted explanation (1994:205–6) of the retention of $*h$ in the suffix of the subjunctive is most unlikely. He claims that intervocalic $*s$ was restored by analogy with 'the "true" *s*-subjunctives in $*(C)-se/o-$ (type *ry-res*, *duch*, etc.)'. By the time of $*VsV > *VhV$, however, *duch* would have no longer contained any trace of the morpheme $*-s^e/o-$, rendering the analogy difficult to motivate.

⁶⁷ If so, the subjunctive suffix $*\bar{a}s^e/o-$ could be taken as an isogloss in favour of postulating a Proto-Insular-Celtic. There are, however, phonological arguments in favour of an opposition between Gallo-Brittonic and Goidelic (Schrijver 1995:463–66). The $*\bar{a}s^e/o-$ suffix might equally be taken as evidence for convergent development between Pre-Irish and Proto-Brittonic, given that the two branches would have been in contact.

mwy, Breton *mui*, ‘more’ < Proto-Brittonic **mōjī* < Proto-Celtic **mājūs* < PIE **meh₂-iō-*. We might expect a development 3sg. Proto-Celtic **-āiāt(i)* > Early Proto-Brittonic **-ǰiad* > Late Proto-Brittonic **-ǰī* > MW *x-wy*. It seems unlikely, therefore, that the circumstances for Jasanoff’s recharacterisation ever existed in Proto-Brittonic: since **-āiā-* did not contract to **-ā-*, there were no grounds for its extension with **-se/o-*.

At this point, Jasanoff’s theory of the Brittonic *h*-subjunctive as a ‘recharacterised *ā*-modal’ can be safely laid aside. Not only did the circumstances never obtain for a recharacterisation of a putative inherited **-ā-* suffix, but it is unlikely that Proto-Brittonic **-se/o-* was anything other than a relic form, meaning that it was unlikely to be used to recharacterise **-ā-*. If the regular Brittonic subjunctive cannot be explained as deriving from an inherited **-ā-* morpheme, we also have little reason to attempt to derive *el* and *díel* from such a morpheme. Clearly, then, we must consider alternative explanations.

In fact, a possible explanation of this form avails itself if its etymology is considered. The underlying root is generally taken as **pelh₂-*, which forms a Greek root-aorist πλῆτο < **p_lh₂-to*. It is consequently quite possible to derive *el* regularly from a root-aorist subjunctive, as indeed suggested briefly by Zair (2018:2033–34). A PIE root-aorist subjunctive **pelh₂-e-ti* would develop regularly into Proto-Celtic **φelati*. This would be expected to develop into Proto-Celtic **φalati* by Joseph’s Rule, yielding Proto-Brittonic conjunct **alat*. The 1sg., 1pl. and 3pl. of this verb would not have undergone laryngeal colouring of the thematic vowel, however, giving Proto-Celtic **φelū*, **φelomosi* and **φelonti*. On this basis, it seems reasonable to expect that the unusual **-a/o-* ablaut brought about by laryngeal colouring would have been restored to **-e/o-*.⁶⁸ This development has parallels in Proto-Celtic **mal-e/o-*, ‘mahlen’, < **m(e)lh₂-e/o-* (KPV:470–72)⁶⁹ and **uēt-e/o-*, ‘sagen’ < **ueth₂-e/o-* (KPV:679–80). Both roots attest thematic present tense formations in the daughter languages, despite the fact that **h₂* would have led to **-a/o-* ablaut in the thematic vowel. After the restoration of **-e/o-* ablaut in the thematic vowel, 3sg. **φeleti* would develop regularly into a Proto-Brittonic conjunct **elet* > MW *el*.

It might be objected that root-aorist subjunctives are all but unattested in Celtic, but it should also be noted that one of the few other attestations of a root-aorist subjunctive is also in a suppletive

⁶⁸ I am grateful to Dr Nick Zair for the suggestion of the restoration of the thematic vowel **-e/o-* ← **-a/o-*. Any infelicities in the ensuing suggestions are my own.

⁶⁹ Schumacher (KPV:470–72) treats **mal-e/o-* (> MW *malu*; → OIr. **meilid*, *-meil*) as deriving from a \emptyset -grade thematic present **m_lh₂-e/o-*, although it could equally reflect **melh₂-e/o-* > **mel-a/o-* > **mala-/melo-* → **m^a/el-e/o-*. The fact that *a*-vocalism is attested in Welsh and *e*-vocalism in Irish might imply that the root allomorphy was retained for some time.

paradigm, namely OIr. 3sg. subj. *beith*, ‘be’ < **b_ueti* < **b^huh_x-e-ti*. Although this is naturally quite conjectural, it is surely preferable to reconstructing an entire category to explain a single set of Brittonic forms, particularly when the stages between the reconstructed form and the attested forms are so difficult to motivate.

2.2.2.5 Conclusions

The Insular Celtic evidence provides little support to the reconstruction of a Proto-Celtic *ā*-subjunctive. Not only is the type unattested in Brittonic, leaving the reconstruction resting entirely on Irish, but an alternative explanation is also available which accounts for the Irish and Brittonic data more efficiently. Furthermore, the Brittonic *el*-type cannot be taken as an *ā*-subjunctive, and is better explained as a relic of the root-aorist subjunctive.

2.2.3 The *e*-subjunctive

This marginal Irish type requires little discussion, particularly since one of its principal members, OIr. *beith*, the subjunctive of the substantive verb, has already been mentioned. As McCone (1991:115–35) has shown, *beith* reflects a root-aorist subjunctive **b^huh_x-e-ti*, whence also Vedic *bhavat*. As Zair shows (2012b:99–102), forms from the same paradigm are also preserved in Brittonic, e.g. MW 2sg. *bych* < **b_ih* < **bihi* < **behi* < **b_uesi*; 1pl. *bom* < **b_uomosi*. A root-aorist subjunctive can therefore be reconstructed for Proto-Celtic **b_u-* < **b^huh_x-*. If MW *el* is also taken as from a root-aorist subjunctive **pelh₂-e-ti*, the root-aorist subjunctive is reconstructible for Proto-Celtic more generally. Other reflexes of the Proto-Indo-European root-aorist are found in Celtic, e.g. OIr. *do-cer*, ‘fell’ < **k^{er}h_xt*, which could help support the reconstruction of a corresponding subjunctive for Proto-Celtic.

The other Irish *e*-subjunctives are not quite as easily explained as *beith*. As mentioned already (2.1.1.3), these are formed to class H2 verbs, which essentially reflect PIE **ǵ^e/o*-presents, e.g. *gniid* < **ǵneh₁-i^e/o-ti*. Although a root-aorist to **ǵneh₁-* is attested in Vedic *ajani* (‘ich bin geboren’, LIV²:163–64), the reflex of a root-aorist subjunctive **ǵneh₁-e-ti* would be OIr. **geinid*, so **gneith*, *-gné* clearly cannot reflect this. It is preferable to see the *e*-subjunctives of such roots as built by analogy to the consuetudinal present: *biid* : *beith*, *-bé* :: *gniid* : *X* → **gneith*, *-gné*.

While not an *e*-subjunctive, the subjunctive of OIr. *ro-cluinethar*, ‘hears’, *ro-cloathar* (KPV:413–17) merits comment here. McCone (1991:20–21) reconstructs a preform **klo_u-ase-tor* ← **klo_u-se-tor* for the subjunctive, but Schumacher notes (KPV:416) that such a reconstruction would result in an invariant subjunctive stem *clō-*, which cannot account for forms with a diphthong /oi/, such as 2sg. *-cloither* (Ml.21b6) < **klo_u-e-*. Since **k^ley-* attests a root-aorist, e.g. Vedic *ásrot*, Greek 2pl. impv. κλῦτε, it seems reasonable to interpret *ro-cloathar* as a root-aorist subjunctive. There is some evidence in Insular Celtic for a Proto-Celtic root-aorist subjunctive,

therefore, the strongest of which is represented by *beith*, *-bé*, but to which might also be added MW *el* and OIr. *ro-cloathar*.

2.2.4 The Copula

As seen above (2.1.1.4), the subjunctive of the copula in Irish is fundamentally similar to that of the substantive verb, the differences being attributable to the fact that the substantive bears accent and the copula does not. Consequently, the subjunctive of the copula also reflects Proto-Celtic **b_ueti* < **b^huh_x-e-ti*. Here we are concerned with the forms of the copula found after the conjunctions *má*, ‘if’, and *cía*, ‘although’, 3sg. *-d*, 3pl. *-t*. Thurneysen (*GOI*:§805) suggests “[t]hese may contain old absolute subjunctive forms corresponding to indicative *is*, *it*”, i.e. **eseti*, **esonti*. Phonologically, this explanation would seem valid: PIE **h₁es-e-ti* > PC **eseti* > abs. **ehēθi* (lenition) > **ēθ’* (palatalization, loss of **h*, apocope); **h₁es-o-nti* > **esonti* > abs. **ehodi* > **V̄d’*. Since the copula is routinely unaccented, these forms will have undergone further reduction after the conjunctions *má* and *cía*. Interestingly, these appear to be the only Insular Celtic subjunctives related to a present, rather than an aorist, stem, and present the possibility that this category existed in Proto-Celtic, even if only to a limited extent. It appears that this morphology has been preserved in conservative syntactic environments (1.4.3.2), namely conditional and concessive clauses.

2.3 Conclusions

Based on the Insular Celtic material we can reconstruct a Proto-Celtic thematic *s*-subjunctive with an *e*-grade root, a formation attested in both Irish and Brittonic. There is also evidence for a variant of this suffix in **-as^e/_o-*, underlying both the Irish *ā*-subjunctive and the Brittonic *h*-subjunctive, again with *e*-grade vocalism in primary verbs. Evidence for an inherited *ā*-subjunctive is lacking, however, since such the suffix is attested only in Irish. There is also some evidence for a root-aorist subjunctive, particularly for the PC root **bū-*, but also probably for the root **klo_x-* < **k^hle_x-*, and perhaps **φel-* < **pelh₂-*. Finally, an isolated root-present subjunctive can be reconstructed for PC **es-*, based on OIr. *mad*, *mat*, etc.

3 Preliminaries to the analysis of the Continental Celtic Verb

Before examining the continental Celtic evidence, some preliminary concerns need addressing. Some are simple orthographical matters, requiring little discussion. Certain problems in the historical phonology of both Gaulish and Celtiberian must be addressed, however, to inform the analysis of the individual forms. Particular attention is paid to phonological developments which would affect the verbal endings of subjunctives, several of which have been proposed in Continental Celtic scholarship to date. In Gaulish, the principal issues are the loss of final *-ī and other word-final phonemes, and syncope, often postulated to explain otherwise evasive forms. In Celtiberian, which appears not to have undergone apocope or syncope, the main controversy is the value of the grapheme transcribed here as <z>, and whether it ever denotes the result of intervocalic *s.

3.1 Gaulish

3.1.1 Orthography

A brief orthographical note is required before analysing individual forms. Since all of the possible subjunctive forms are found either in Gallo-Latin epigraphy or the late antique *De Medicamentis* of Marcellus of Bordeaux, Gallo-Greek orthography requires no special attention, but will be discussed in relation to later Gallo-Latin developments. Throughout what follows, the characters <í>, <đ> and <x> have been used in the transcription of forms from the Gallo-Latin alphabet. The first of these transcribes the Gallo-Latin *i-longa*. In the script, this grapheme appears as a long vertical line, often slightly curved to the left towards the bottom. It is largely found intervocalically – particularly between <i> (/i/ or /i:/) and another vowel – probably denoting a sub-phonemic glide, e.g. **duǵíontíio** (L-13). It is also found word-initially, where it represents the glide phoneme /j/, e.g. **íexsetesi** /jexsetesi/ (L-93).

The second character, <đ>, sometimes transcribed as <θ>, represents the so-called *tau gallicum*. This grapheme is more variable in its appearance than <í>. In Gallo-Greek epigraphy, it is denoted with the Greek grapheme <θ>, but by the Gallo-Roman period it closely resembles the grapheme <d> (/d/) (Lambert 2003:83, 93). In monumental inscriptions, the letter form is generally <Đ>, a <D> with an additional line through the middle. In cursive, however, <đ> is normally only distinguished from <d> by a slightly longer vertical stroke, hanging beneath the line, rendering it easily confused with <d>. On the Châteaubleau tile (L-93), there is perhaps a third allograph, transcribed as <s>, which resembles the grapheme <s> with an additional stroke (Lambert 2001a:100). This grapheme is generally taken to represent the affricate /tʰ/, developing from

dental-sibilant or sibilant-dental clusters (Lambert 2003:46), although the etymologies supporting a sound change **sT, Ts > /tʰ/* are neither numerous nor exceptionally secure.⁷⁰

Finally, the grapheme transcribed as <x> in Gallo-Latin texts, and <χ> in Gallo-Greek, represents the Gaulish velar fricative /χ/ in texts written by living Gaulish speakers. This phoneme developed in Proto-Celtic from PIE **Ks, *Kt, *Ps* and **Pt*, prior to the loss of PIE **p* (Stifter 2017:1191–92). Its value in the Pseudo-Gaulish quotations of Marcellus of Bordeaux is unclear, since the manuscript attestations of this text date from several centuries after its original composition. Since the mediaeval copyists had no knowledge of Gaulish, it is possible that they will have used the grapheme <x> as it was used in the writing of their contemporary vernacular, probably early Gallo-Romance, if not already Old French, rather than as it would have been used in the Gaulish of late antiquity.

3.1.2 Possible sound changes affecting final syllables in Gaulish

Opinion is divided regarding the chronology of sound changes within Gaulish, several of which might have affected verbal morphology. It is therefore worthwhile evaluating some recent proposals, as they will inform the analysis that follows. In particular, the theories advanced by Schrijver (2007), if correct, could have crucial repercussions on any analysis of Gaulish forms.

Schrijver suggests the following relative chronology for sound changes affecting Gaulish final syllables: (1) early loss of **-d#*; (2) merger of **-e#* and **-i# > /ɪ/*, represented graphically by either <e> or <i>, seen in vacillation between the two graphemes in the same form; (3) apocope of word final /ɪ/ after /s, t/. He claims that **lilous** from the La Graufesenque graffiti (see appendix) reflects all of these changes, deriving it from a PIE desiderative-future **li-leug-s-ed > PC *lilouχsed > Proto-Gaulish *lilouχse (loss of **-d#*) > *lilouχsɪ (merger of **-e#* and **-i#*) > lilous (apocope of **-ɪ#*). We will return to this form, but first we must examine the evidence for each stage, and establish how well the data support Schrijver's relative chronology.*

3.1.2.1 Loss of **-d#*

There is no consensus regarding loss of **-d#*, and it is particularly opposed by McCone (2006:173–74). Schrijver can cite a reasonable body of data for the development, however,

⁷⁰ Eska (1998) suggests that *tau gallicum* denotes [θ] or [θ̄], due to what he perceives as allophonic variation between <t> /t/ and <θ/đ̄> [θ/θ̄] in e.g. **etic** (L-98)/**ed̄dic** (L-100), and the fact that cross-linguistically /t/ rarely lenites to [tʰ]. Mees (2002) defends the interpretation as [tʰ], noting that [tʰ] is cross-linguistically a more common segment than [θ/θ̄]. He also notes that early Germanic epigraphy does not deploy the *tau gallicum* grapheme <đ̄> to denote Germanic /θ/, and that there are alternative analyses for many of Eska's doublets, which do not require the interpretation of <θ/đ̄> as spelling a lenited allophone of /t/ <t>. Katz (2000:343–45) similarly takes *tau gallicum* as [tʰ].

including: **biētutu** (L-98, 1B.9) and similar forms from L-98, if 3sg./pl. impvs. (PC **-tūd* < PIE **-tōd*); **sosio** (L-79), if from **so-siod* (cf. OIr. dat. sg. *síu* < **siūi*); **readdas** (L-78; see appendix), if **ro-e(d)-ad-da-s-t*; and **in alisiía** (L-13), if from ablative **-iād*. He must also explain away the forms **tomedec lai** (Cisalpine Gaulish: *CIL* V 4883; see appendix) and **(deuor)buetid**, (L-66, 6; L-100, 8-9). These analyses are not all equally impervious to criticism.

3.1.2.1.1 **sosio**

Schrijver's analysis (2007:358) of **sosio** < neuter nom.-acc. sg. **sosiōd* is the strongest piece of evidence he offers in favour of the loss of **-d#*. The form is found in a short dedication on a vase, the interpretation of which has been much discussed over the years since its discovery.⁷¹ As he notes, from a syntactic point of view it seems likely that **sosio** denotes the direct object. Given that the dedication is found on a single vase, it is unlikely that the direct object would be plural, but all options will briefly be considered. Since a feminine accusative singular or a neuter accusative plural would show *a*-vocalism, i.e. **sosiā-* or **sasiā-*, and the form lacks the masculine accusative endings sg. *-on* < **-om* or pl. *-os* < **-ons*, by process of elimination, it must be a neuter singular form if it is the direct object. Although it is likely that **sosio** represents the direct object, it is by no means guaranteed, and alternative explanations have been proposed. Rubio Orecilla (1997:43–44), Isaac (2001:352–53) and McCone (2006:173) have all suggested reading the form as a genitive singular, with **sosio** < PC **sosiō* ← PIE **tosīo* (Skt. *tasya*, Homeric Gk. *τοῖο*), referring to **magalu**, the dative singular masculine anthroponym at the end of the inscription.⁷² The interpretations of Rubio Orecilla (“su [querida] Buscilla (lo) colocó...”) and McCone (“Buscilla placed his (vase) in Alisia for Magalos” or “His (beloved) Buscilla placed (it) in Alisia for Magalos”) require ellipsis of the direct object, which might be problematic, although the direct object can perhaps be inferred from the context. For Isaac, the sentence has only an indirect object, the dative or “instrumental-sociative” **magalu** (“May his Buscilla lie down in Alisia for Magalos”), and is unrelated to the support of the inscription.

It might also be noted that there is reasonable evidence that the neuter singular of the pronominal stem **sosi-* was the twice-attested **sosin/σοσιν**. In G-153 (5-7), **σοσιν** occurs in the sequence **εωρου ... σοσιν νεμητον**, ‘*a dédié ... ce lieu sacré*’, and **sosin** appears in a parallel sequence in L-13, **ieuru ... sosin celicnon**. The noun that **σοσιν** agrees with in G-153, **νεμητον**, can be

⁷¹ The whole inscription, to be discussed further (4.1.1.3) with reference to **legasit**, reads: **buscilla sosio legasit in alixie magalu**. Dupraz (2015:n. 17) summarises the recent bibliography.

⁷² Gen. sg. **-osiō* is admittedly otherwise unattested in Gaulish, but the Lepontic genitive in *-oiso* ← **-osiō* shows that Proto-Celtic retained the ending. Eska (1988) provides one of the more persuasive accounts of the Celtiberian *o*-stem genitive in *-o*, deriving it analogically from inherited **-osiō*.

established as being neuter, rather than the masculine accusative suggested by Rubio Orecilla (1997:45–46), from both its OIr. cognate *neimed*, ‘sacred place, sanctuary’ (*eDIL*: s.v. *neimed*) and its fossilisation in the toponym Αύγουστονεμέτον (Ptol. Geog. 2.7.12). The noun **celicnon** (L-13) lacks known cognates in other Celtic languages, but may have been borrowed into Gothic as the neuter *kelikn*, ‘tower, raised room’ (cf. Mees 2008a:123), again suggesting that the Gaulish form belonged to the neuter gender. This difficulty could, however, be circumvented if it were proposed that **sošin/σοσιν** represents the attributive and **sošio** the substantive form of the pronoun. Even if the analysis of **sošio** as deriving from **sošiod* is perhaps more tenable than a derivation from **sošjo*, the date of the text must also be considered. On epigraphic grounds, Dupraz (2015:3) suggests that the text is likely to have been written in the 3rd century CE, which is comparatively late in terms of the attestation of Gaulish. It cannot be precluded, then, that the change **sošiod* > **sošio** was relatively late, which would undermine Schrijver’s proposed relative chronology.

3.1.2.1.2 **biietutu and bi(i)ontutu**

The forms **biietutu** and **bi(i)ontutu**, found on the Larzac lead tablet (L-98), are taken by Schrijver as 3sg./3pl. imperatives, formed with the Indo-European suffix **-tōd* > Proto-Celtic **-tūd*. As will be seen in 3.2.2.1, this ending is preserved in Celtiberian, where it is written **-tuz**, probably denoting [tu:ð] or [tu:θ] (Jordán Cólera 2019:1:213–14), so it is known to have survived into Proto-Celtic. The variation between **-et** and **-ont** makes it clear that the forms are verbal, respectively 3sg. and 3pl., but their segmentation remains unclear. Analysing the forms as imperatives is complicated by the problem of explaining the duplication of the imperative morpheme, although Umbrian does provide a parallel, e.g. *habetutu* (Gorrochategui 1997:267). Since these are the only possible examples of the third person imperative found to date in Gaulish, however, and their context poorly understood, it is difficult to accept an explanation of them as imperatives with “expressive doubling” (*DLG*:75). Furthermore, as McCone (2006:173) notes, even if the morpheme is correctly identified, it would only imply loss of **-d#* after a long vowel. It might therefore be retained after short vowels, such as those found in verbal endings. This development is paralleled in Latin, e.g. *illūd* vs. 3sg. impv. *datō* < OLat. *datōd*.

If an imperative interpretation of these forms is to be sought, we might prefer Stüber’s suggestion (2017:1212) that “3. sg. *biietutu* and 3. pl. *biontutu* ‘let him/them hit(?)’ seem to contain *-e-tu* and *-o-ntu* < PIE **-tu/-ntu* respectively, either with reduplicated **-tu* or an added particle”. The ending **-tu* – attested in e.g. Hitt. *eštu*, Vedic *ástu*, ‘let it be’ < **h₁es-tu* – could account for the Gaulish forms without the postulation of additional sound-changes. It must be conceded that this type of imperative lacks parallels elsewhere in Celtic, but it is perhaps reasonable to consider the possibility that after PIE **-tōd* > PC **-tūd* the endings **-tūd* (> Celtiberian **-tuz**) and **-tū* (> Gaulish

-tu(tu)) would have been similar enough in form for a degree of allomorphy to have been tolerated.

An alternative proposed by Lambert (2003:171) is that the forms should be segmented as *bijet=utu* and *bijont=utu*, with an enclitic pronoun (2003:69). Although Lambert provides no cognates elsewhere in Celtic or Indo-European, he is correct to observe that other forms containing the syllable **-ut-** occur in the Larzac tablet, e.g. **J..utonid** (1A.7), **utanit** (2A.11). In these forms, **uton** and **utan** could conceivably be derived from the masculine *o*-stem and feminine *ā*-stem singular accusative endings PC **-om*, **-am* < PIE **-om*, **-eh₂m*,⁷³ which would support the postulation of an *o*-/*ā*-stem Gaulish pronoun **ut-*. If **=utu** is pronominal, it would have to be interpreted as a masc./neut. dat./instr. sg., with **-u** < Gallo-Greek *-ou*⁷⁴ < PC **-ūi* < PIE **-ōi*, or < PC **-ū* < PIE **-oh₁*. LIPP (2:794) suggests connecting **utonid** and **utanit** with Greek *αὐτός*, stemming from a Proto-Indo-European pronominal compound **a_u-tó-*. If we reconstruct **h₂(e)_u-tó-* instead of **a_u-tó-* – with its somewhat unusual vocalic initial – both the Gaulish and Greek forms would be phonologically regular descendants of the *ø*-grade **h₂utó-*. The enclitic pronoun **=utu** would then be the indirect object of the verbs **biiet** and **biiont**, or – if an instrumental interpretation is preferred – the indirect agent, ‘with it, with him’. This explanation has the advantage of not relying on morphology otherwise unattested in the language, and accounts for the attested forms by phonological processes well-established for Gaulish. We should also note that interpreting **biietutu** and **biiontutu** as containing a dative-instrumental pronoun **=utu** is still compatible with Stüber’s proposal that the ending derives from the Proto-Indo-European imperative in **-tū*, with **biietutu** representing **bijetū=utū*, although this is rather more speculative an interpretation.

3.1.2.1.3 readdas

To present this form as evidence for the loss of final **d*, Schrijver must analyse it as **(p)ro-e(d)-ad-da-s-t*, the element **e(d)* being reconstructed because of the spelling <re> for the preverb **ro*. This hypothesis would seem to be largely redundant, given the availability of other explanations. First, the spelling <re>, apparently < PIE **pro*, appears to be relatively common in

⁷³ The first hand of L-98 habitually writes <m> word-finally, where <n> would be expected. This is, however, probably due to Latin influence rather than phonological conservatism in the Larzac dialect: the second hand, who writes the first six lines of face 2B of the tablet, regularly has final /n/, e.g. **nepon** (2B.3, 6) < **ne-k^uom*, ‘somebody, nobody’. If **utonid** and **utanit** are pronominal, it is likely that the first hand simply failed to Latinise them to **utomid*, **utamit*, since the enclitic element **=id/it** meant that the nasal was no longer word-final, and therefore need not have been “corrected” to <m>.

⁷⁴ Dative singular <ou> is attested in e.g. **μακκαριου** (G-120), but is already reduced to <ov> by the end of the Gallo-Greek period, e.g. **καρνονου** (G-224).

Gaulish, even in forms an enclitic pronoun cannot be present, e.g. anthroponyms *Rebricus* and *Regenus*, toponyms *Regulbium* and *Rerigonium* (*DLG*: 261–62). We need not attribute the spelling in this form to a pronoun **e(d)*, therefore. Furthermore, the spelling of this preverb varies considerably, even in lexical items which appear to be formally similar, or even cognate. The variation in form of the preverb in apparently related forms can be seen in the following: <**ro**>, *Robili* (anthroponym, gen. sg.); <**ra**>, *Rabilus* (id., nom. sg.); and <**re**>, e.g. **rebellias**, L-52, possibly a *ǵā*-stem genitive singular.⁷⁵ This variation can be interpreted in a number of ways. One possibility is that we are here seeing the reduction of vowel quality in proclisis, perhaps towards [ə], causing uncertainty as to how to spell the sequence [rə]. This might be further supported by forms such as the Gaulish loan into Latin *uērēdus*, ‘post-horse’ < PC **uō-reǵd-*, ‘ride under’ (> Welsh *gorwydd*, ‘horse’), and perhaps **se**, ‘this’, if < **sod* (Lambert and Stifter 2012:160). An alternative explanation, offered by *LIPP* (2:637, n.21), is that the variation between <**ro**> and <**re**> indicates syncretism between the Indo-European preverbs **pro* and **ré*, which, after PIE **pro* > Early PC **φro* > Later PC **ro*, might have seemed to be ablaut variants. A final alternative is that <**re**> here reflects Gaulish /r1/ < Proto-Celtic **φri* < PIE **prí* (*LIPP*:2:637–38). The generalisation of the form **prí* for this preverb and preposition is paralleled by PIE **pṛh₂í* > PC **φari* > Gaulish *are-*, OIr. *air-*, MW *ar*, where other Indo-European branches continue **pṛh₂ó*, e.g. Mycenaean *pa-ro* (*LIPP*:2:650–51).⁷⁶ Any of these explanations avoids the need to postulate an enclitic pronoun **e(d)* – anyway otherwise unparalleled in Gaulish – in **readdas**, although the available data do not allow one to be chosen over the others.

An additional difficulty of Schrijver’s interpretation, which he leaves undiscussed, is explaining the retention of final **d* in the preverb **-ad-*, ‘to’, while accounting for its loss from **e(d)*. The failure of **ad* to develop into **a* here might result from the initial **d* of the following verbal root, **-da-*. Preverbal and prepositional **ad-* is attested in many other contexts in Gaulish, however, implying that its final **d* was retained generally. Many instances are, admittedly, anthroponyms, in which *ad* may have become petrified and thus avoided the loss of final **d* proposed by Schrijver. Deverbal nouns, however, such as **adgarion**, ‘accuser, invocator’ (L-100, 4), from **ad-gar-* (cf. OIr. *ad-gair*, ‘call to account’), and **adsagsona**, ‘the intercessor’ (L-98, 1A.4), from **ad-sag-* (cf. OIr.

⁷⁵ Since the interpretation of **rebellias** is uncertain, only their similar consonantism suggests that it might be cognate with *Robili* and *Rabilus*.

⁷⁶ It is also possible that both **pró* and **prí* (and indeed **pṛh₂ró* and **pṛh₂rí*) were preserved in Celtic, as in Germanic, cf. Gothic *frawaúrhts*, ‘sin’ (*fra-* < **pro*) vs. *frisahts*, ‘example, picture’ (*fri-* < **pri*); OE *for*, OSax. *for*, ‘for’ < Proto-Germanic **fura* < PIE **pṛh₂ó* vs. Gothic *faúr*, OIc. *fyr*, OHG *furi* < Proto-Germanic **furi* < PIE **pṛh₂rí*.

ad-saig, ‘desire’), lack direct cognates in the other Celtic languages.⁷⁷ Consequently, they were likely derived within Gaulish, rather than inherited in a fossilised form, and thus indicate a retention of **-d#* in the preverb *ad* in the corresponding Gaulish verbs **ad-gar̄iū* and **ad-sag(i)ū*. Although not conclusive, since it is unclear to what extent preverbs undergo phonological change independently rather than as part of a verbal lexeme, this at least casts doubt on the idea that a development **ed > e* is attested in the form **readdas**.

Moreover, retention of final /d/ in preverbal *ad* is actually directly attested in Gaulish, which appears to vitiate Schrijver’s argument that **d* was lost word-finally in prehistoric Gaulish. The attestations are on the recently discovered and published Chartres lead plaques (Viret et al. 2014), dated to the end of the 1st century CE (Viret et al. 2014:10). The following forms are found on the plaques, all seemingly related with the deverbal noun **adgarion**: **adgario** (A6), **adogarie** (A7), **adgariontas** (A9) and **adgarie** (A9). The form **adogarie** is particularly interesting here, due to the intrusion of the form spelled <o> between the preverb, *ad*, and the stem *gar-je/o-*. It is highly likely to represent either an infixed pronoun or a second preverb.⁷⁸ The fact that this form is found alongside others with only a single preverb would imply that, at the time of the writing of this text, infixation of additional elements after the first preverb of a compound verb was still possible in Gaulish, and consequently that preverbs were still considered to be independent words. If Schrijver were correct in his suggestion that word-final **d* had been lost at an early date, however, we should expect to find **auogarie*, or similar.⁷⁹

3.1.2.1.4 in alisiía

There is considerable uncertainty as to how to interpret this form from the well-known inscription *RIG L-13*, a dedication from Alise-Sainte-Reine.⁸⁰ This uncertainty is compounded by

⁷⁷ Cf. however OIr. neut. *acrae*, ‘prosecuting’.

⁷⁸ For this argument, it is irrelevant which of the two options is true. Lambert suggests (apud Viret et al. 2014:31), echoed by Stifter (apud Viret et al. 2014:56), that <o> represents the preverb **uo*, meaning that **adogarie** is to be interpreted as a compound verb with two preverbs, **ad-uo-gar-*.

⁷⁹ Schrijver himself suggests (2007:365) – regarding **ate** < **ati* in compounds – that this must represent remodelling due to the word-final development **ati > *ati* in the independent preverb. He should therefore also predict **a < ad* in compounds. At the very least, theory-internally it is difficult to maintain Schrijver’s suggestion of an early general loss of final **d*.

⁸⁰ Full text: **martialis dannotali ieuru ucuete sosin celicnon etic gobedbi dugiíontíío ucuetin in ... alisiía**, generally interpreted as “Martialis, son of Dannotalos, dedicated this building to Ucuētis, with the smiths who serve Ucuētis in Alisia” (Lambert 2003:100). Some scholars (most notably Eska 2003:105ff.) defend a dative interpretation of **gobedbi**, but Mees (2008a) and Stifter (2011) have demonstrated the

the variation between **in alisiía** on L-13 and the sequence **in alixie** (L-79). Both seem to refer to the same location, *Alisia*, and are in identical syntactic contexts. The forms are difficult to reconcile to a single nominal stem class: **alisiía** likely reflects a *ǵa*-stem, given the quality of the final vowel, whereas **alixie** appears to be a *ǵo*-stem locative, with the ending *-e /ē/* < PC **-eǵ* (Stüber 2017:1204).⁸¹ As Schrijver notes (2007:358), however, the *a*-stem form **alisiía** cannot be derived from a locative, PIE **-eh₂-i* > Early PC **-āǵ* > Late PC **-ǵǵ*, since final */-aǵ/* is seen to develop to */-ī/* within the history of Gaulish (Lambert 2003:58). Schrijver's suggestion that **alisiía** continues an old ablative in **-ād* consequently has some merit, since ablatives reflecting Proto-Celtic **-ād* are attested in Celtiberian, e.g. **arekorataz**, 'from Arekorata' (*MLH* A.52). Such forms could, however, be an independent creation of Celtiberian, since the ablative in *-Vz* has also been generalised to other noun stem-classes in the language, as is clear from forms such as the *i*-stem **bilbiliz**, 'from Bilbilis' (A.73), a development unattested in the other branches of Celtic.

In the context of Schrijver's contention that Gaulish lost final **-d*, it is notable that an interpretation of the form as an ablative singular, just as the interpretation of **biietutu** as an imperative discussed above, would also only serve as evidence of this development after long vowels. Furthermore, Schrijver's dismissal of the possibility that **alisiía** reflects an instrumental, **-iā*, on the grounds that the instrumental singular is not attested anywhere in Celtic, seems more motivated by the need for this form to reflect an ablative in **-ād* than by the facts of Gaulish itself. Although he is correct that there are no unambiguous examples of the instrumental singular in Celtic, there are forms in Gaulish which can reasonably be interpreted as such, e.g. **βρατου** (G-27, 64, etc.), 'with gratitude, by vow'. This is usually taken as deriving from an instrumental **g^urh_xtoh₁* (*DLG*:85–86), although Schrijver (2007:359, fn. 4) would derive **βρατου** from an old ablative, i.e. PC **brātūd* < PIE **g^urh_xtōd*.⁸² Even more salient to the case of **alisiía** is the form

viability of an instrumental reading. The interpretation of **gobedbi** is anyway of little consequence to that of **in alisiía**, which must be a locative prepositional phrase.

⁸¹ It seems likely that **alixie** does display the *ǵo*-stem locative ending, but due to a later introduction from the *ǵo*-stems to the *ǵa*-stems to reduce ambiguity, rather than the existence of a toponym **Alisios*.

⁸² The now generally defunct comparison of **βρατου** with OIr. *bráth*, 'judgment', is still defended by Bernardo Stempel (e.g. 1999:291–92), who treats the formula **δεδε βρατου δεκαντεμ/ν** as translating Latin *decumam ex iussu dedit* (2006:48–49). Although the sequence *ex iussu* alone is quite well-attested epigraphically, and is used occasionally alongside verbs like *posuit* (e.g. *CIL* XIII 6383), the sequence *X ex iussu dedit* does not seem well attested. The only example of *iussu ... dedit* in *TLL* is "*liber homo si iussu alterius ... iniuriam dedit*, from Javolenus' digest 9, 2, 37 pr., and the only epigraphic attestation of *ex iussu dedit* I have been able to find is *CIL* XIII 7410. It seems counterintuitive for Gaulish to have calqued the phrase, particularly prior to the period of Roman political supremacy in the region. As Mullen (2013:210–

brixtia (L-100, 3), ‘with magic’, which shares its desinence and appears to function as an instrumental in context (Lambert 2003:156–57; Mees 2007:17). Additionally, it is undisputed that Gaulish attests the instrumental plural, as in **gobedbi** < **-b^{hi}*, also on L-13. Indeed, Schrijver himself (2001:135) terms the form **anmanbe** on the Châteaubleau tile (L-93) a “dative/instrumental”. Besides the Gaulish evidence, Prósper (2011) sees evidence in Celtiberian for the instrumental singular and plural of *ā*-stem nouns in the forms **usama** (< **-ā* < **-eh₂-h₁*) and **baisais** (< **-āis* ← **-ā-bi(s)* by analogy with *o*-stem **-ōis*) on an interpretively-difficult tessera (K.23.2), although Jordán Cólera (2019:1:188) has recently questioned this interpretation. Regardless of the Celtiberian evidence, it seems unlikely that the instrumental plural would have been retained in Gaulish without a corresponding singular. Schrijver’s insistence that an ablative rather than instrumental explanation of **alisiía** is “more plausible” is quite difficult to accept in principle, therefore, and it seems likely that the instrumental singular ending **-ā* was involved in the syncretism of oblique cases, quite possibly being reflected in both **alisiía** and **brixtia**. The form **alisiía** consequently provides little evidence of the loss of **-d#* in Gaulish, and would only provide evidence for loss after long vowels if the derivation from a Proto-Celtic ablative singular in **-ād* were accepted.

3.1.2.1.5 Possible counterexamples: (deuor)buetid and tomedeclai

The evidence thus far for loss of **-d#* in Gaulish is at best quite circumstantial, meaning that any counterexample could severely undermine Schrijver’s position. The two that he attempts to address (2007:359) are of different value as evidence. Older analyses of the putative Cisalpine Gaulish compound verb **tomedeclai**,⁸³ ‘has set me up’ (*CIL* V 4883), which segmented the form as **to=med=ek=lā-e*, have been essentially defunct since Eska and Weiss (1996). There it was noted that the accusative singular pronoun *med* is likely a Latin innovation, given that it lacks parallels in the other Italic languages (1996:n. 5), and therefore could not have also been inherited by Celtic to appear in this inscription. They favour a segmentation **to=me=de=ek=lā-e*

14) shows, the closest formal parallel for this formula in the neighbouring cultures is Oscan *brateis datas*, ‘on account of favour granted’ (*brat-* < **g^ur_h-to-*), so the formal similarities between the Gaulish and Oscan reflexes of **g^ur_h-to-* and the near-identity between Gaulish **δεδε** and Oscan *deded* may have contributed to the development of the Gaulish formula. Meißner (2010:103–4) also draws attention to a few inscriptions (particularly *Année Epigraphique* 1955, 56) where the Celtic lexeme *Brato-* is translated onomastically with Latin *gratus*, further supporting the interpretation of **βρατου** as ‘with gratitude’.

⁸³ The reading, interpretation, and indeed Celticity of this inscription are disputed. Although Eska and Wallace (2011) defend a Celtic reading, Stifter (2014:208–9) rejects this interpretation on the basis of recent analyses by Schürr (2006) and Zavaroni (2008). The form **tomedeclai** is discussed here purely because Schrijver includes it.

(1996:290), in which the \mathbf{d} of the inscription represents the initial phoneme of the preverb $*d\bar{i}$, ‘from’ $*d\bar{e}$. Cisalpine Gaulish **tomedeclai** offers evidence neither for nor against the loss of $*-d\#$ in Gaulish, therefore.

The forms **buetid** and **deuorbuetid**, however, are more problematic to Schrijver’s proposed sound change. The widely accepted interpretation of these forms is that they contain the 3sg. subjunctive of $*b^huh_x-$, i.e. PIE $*b^huh_x-e-ti$ > PC $*b\bar{u}eti$, followed by an enclitic element, identified by McCone (1991:118) as resulting from “the petrification of a neuter enclitic pronoun $-(i)d$ ”. Schrijver’s alternative is to interpret the segment $-d$ as representing the particle $*de$. This is not an unreasonable theory, and has much to commend it. It can be seen from the development of PIE $*k^u\check{e}$ > Gaulish \mathbf{c}, exemplified by forms such as **etic** (L-13) $*eti-k^u\check{e}$, that Gaulish must have undergone apocope of $*-e\check{\#}$ in enclitics. Moreover, the fact that the development $*k^u$ > /k/ is found, in place of the regular reflex of the unvoiced labiovelar as /p/, e.g. **p(e)tuarios**, ‘fourth’ (L-30c) $*k^u\check{e}turios$, indicates that $*-e\check{\#}$ > $-\emptyset$ must have preceded $*k^u$ > /p/, causing a specifically word-final development $*-k^u\check{\#}$ > /k/. If an early apocope had affected the enclitic conjunction $*k^u\check{e}$, it is reasonable to expect it to affect the particle $*de$.

Schrijver’s identification of the \mathbf{d} in these forms with $*de$ does, however, introduce problems to the syntax of the Gaulish verbal complex, particularly from a comparative perspective. Notably, it is striking that the enclitic $*de$ occurs in the same position with both the simple verb, **buetid**, and the compound, **deuorbuetid**. If \mathbf{d} really continues the particle $*de$, it should appear instead after the first preverb of the verbal compound, rather than after the verbal root. This expectation is strongly supported by the Insular Celtic evidence: in both MW and OIr., the same compound takes enclitic pronouns as infixes after the first preverb, e.g. *dy-m-gorwy*, ‘he overcomes me’ (*Llawysgrif Hendregadredd* 10v.36); *du-nd-órbiarni* [gl. *pervenire*],⁸⁴ ‘that we should reach it’ (Ml.105b6). Similarly, the particle $*de$, when functioning as a relative marker in compound verbs in OIr., appears after the first preverb, and indeed prior to any infixed pronouns, e.g. *do-d-mbeir*, ‘who brings him/it’ $*tu-de-en-beret$ (McCone 2006:273), rather than after the inflected verb. Consequently, although **buetid** might be the expected outcome of the particle $*de$ with the simple verb, it seems likely that the compound form should be $*de-d-uorbueti$. This is speculative, however, as our meagre evidence provides little information regarding how enclisis worked in Gaulish. Furthermore, an analysis of the final \mathbf{d} as deriving from the enclitic pronominal $*(i)d$, as suggested by McCone, would face similar difficulties of explaining its position

⁸⁴ OIr. *do-rorban* (the eDIL headword for *dundórbiarni*) seemingly consists of more than one inherited verbal root, probably Proto-Celtic $*bi-nā-$, ‘strike’ and $*bū-$, ‘be’. The correspondence with the Gaulish form is thus imperfect, but shows the expected position of the enclitic after the first preverb.

in the verbal complex, since here again we expect enclisis to the first element of the compound verb, rather than to the inflectional ending, as in Welsh and Irish. The evidence currently available is simply insufficient to permit judgment between the two suggestions.

Lambert (2001b:460) briefly comments on these forms, and, like Schrijver, identifies the enclitic element as **dĕ*. Lambert's explanation is more convoluted than Schrijver's, but is worth mentioning here since, although it will be concluded that his explanation does not adequately capture the attested data, his approach perhaps reveals a route towards a more acceptable solution. His reasoning is as follows: prior to apocope, Proto-Gaulish would have had forms such as **bereti*, without an enclitic, alongside **bereti=dĕ*, with an enclitic. Lambert appears then to presume that apocope of **ĕ* in enclitics and of primary **ĭ* in verbs were contemporary processes, yielding **beret* and **bereti=d*. At this stage, he suggests that the form **bereti=d* is reanalysed as **beret=id*, bringing it into line morphologically with apocopated **beret*. The particle **id*, which he takes as "placed at the absolute end of the verbal group",⁸⁵ is then free to be deployed at the end of any verbal group, whether the verb be simple, as in **buetid**, which Lambert segments as **buet=id*, or complex, as in **deuorbuetid**.

Although this is a rather neat account of these two forms, a number of objections present themselves. First, Lambert makes an extremely tenuous assumption in implying that the apocope of **ĕ* in enclitics such as **k^uĕ* and **dĕ* and that of primary **ĭ* in verbal endings were contemporaneous sound changes. The reflex of **k^uĕ* as <c> in Gaulish in forms such as **ponc**, 'when' (L-98, 1A.7; L-100, 8) < **k^uom-k^uĕ*, and **rosmertiac**, 'and Rosmertia' (L-67), indicates that the loss of final **ĕ* had preceded the otherwise general change Proto-Celtic **k^u* > Gaulish /p/. However, there appear to be verbal forms in Gaulish which retain primary **ĭ* (3.1.2.3 below), implying that its loss was rather recent, and indeed possibly still ongoing. This makes the loss of primary **ĭ* a considerably later development than the loss of **ĕ* in enclitics. Furthermore, while Lambert's theory accounts for instances of **=id* after simple verbs, it suffers the same difficulty as Schrijver and McCone's accounts, namely there is little reason to expect it to appear with compound verbs, where the enclitic **dĕ* would have appeared in the preverbal enclitic chain, rather than after the verbal ending. This problem might be avoided, however. If, instead of the reanalysis leading to the creation of a new particle **=id*, as Lambert assumes, the particle **=dĕ* > **=d* was reinterpreted as part of the verbal ending, i.e. **-ti=d* > **-tid*, this would allow us to account for its extension to compound verbs, such as the attested **deuorbuetid**. This suggestion is naturally speculative, given that the forms under discussion here are the only three tokens of the ending **-tid*, but is perhaps a more satisfactory explanation of the form **deuorbuetid** than

⁸⁵ "... une particule verbale placée à la fin absolue du groupe verbal." (Lambert 2001b:460)

suggesting that it attests a particle **=id*, particularly given that Lambert cannot specify any semantics of this particle.

It is also worth noting that postulating $\langle -\mathbf{d} \rangle < *de$ presents a problem to Schrijver's broader reconstruction of the development of the Gaulish verbal system, and indeed of the Celtic languages more widely. He suggests (2007:368) that "the *s*-subjunctive reflects a thematic subjunctive with secondary rather than primary endings, like we find in Vedic", a theory which he claims applies equally to the Irish and Gaulish evidence for the *s*-subjunctive. It is striking, therefore, that interpreting **buetid** as containing the enclitic particle **dĕ* necessitates a reconstruction of the whole sequence **bueti-dĕ*, i.e. with a *primary*, rather than secondary, verbal ending, in order to explain the presence of $\langle \mathbf{i} \rangle$ before $\langle \mathbf{d} \rangle$. It must be conceded that, if **bueti** is subjunctive, it is a root-aorist rather than *s*-subjunctive, which is the category said by Schrijver to have had secondary endings. It seems quite unlikely, however, that Proto-Celtic should have generalised different endings for functionally identical forms based simply on their stem class, with *s*-subjunctives receiving secondary endings, and root-aorist subjunctives primary endings. Consequently, Schrijver's identification of the $\langle -\mathbf{d} \rangle$ of **buetid** with the particle **de* would appear to be mutually exclusive with his theory that the Celtic subjunctive took secondary, rather than primary, endings.

In conclusion, the possible counterexamples addressed by Schrijver provide little further information regarding the retention or loss of final **-d*. The first, **tomedeclai**, is not admissible as an example, since the pronoun **med* was likely a Latin innovation, and is consequently unlikely to be found in a Celtic inscription, if the inscription is indeed even Celtic. The forms **buetid** and **deuorbuetid** face equal difficulties syntactically whether they are explained as continuing forms with the enclitic particle **=dĕ* or the pronoun **=id*. On balance, an adaptation of Lambert's suggestion (2001b:460) that **buetid** and **deuorbuetid** represent reanalyses from **bue-ti=dĕ*, but with a reanalysis to **bue-tid*, rather than **buet=id*, is quite appealing. The generalisation of an ending **-tid* could account for the seemingly aberrant position of the enclitic **dĕ*, but since the ending is only attested in these two forms it cannot be considered conclusive.

3.1.2.2 Merger of **-ĕ#* and **-ĭ#* > /ɪ/

In contrast with the proposed loss of **-d#*, the data support this sound change significantly better, and most scholars accept some sort of merger between **ĕ* and **ĭ* in word-final position. They disagree, however, regarding its specific form: while for Schrijver (2007:360–65) it is a complete falling together of /ĕ/ and /ĭ/ > /ɪ/ in word-final position, Lambert (2003:43) takes the position that is simply an "ouverture de /ĭ/ final ou atone en /ĕ/".⁸⁶ The strongest evidence in favour of a

⁸⁶ Diacritics have been added.

falling together of these phonemes in word-final position is the graphical variation <e> and <i> found in forms such as the instrumental plurals **gobedbi**, ‘with the smiths’ (L-13) and **suiorebe**, ‘with the sisters’ (L-6). Similarly, the Lezoux plate (L-66) has **gandobe**, ‘rare’ (instrumental plural, cf. OIr. *gand*, ‘scanty’) and **mesamobi** ‘worst’ (cf. OIr. *messam*, ‘id.’) on the same document, indicating a synchronic confusion as to how to represent the final vowel. As well as forms of the instrumental plural, there are also several preverbs or prepositions which show similar variation in spelling, indicating a comparable development, e.g. **aremagios** (*RIG IV:44*), **arimus** (*RIG IV:46*).

Although it is clear that there is a positionally-conditioned convergence of /ě/ and /ĩ/ occurring here, it is difficult to specify the conditions, and indeed when the development took place. The preverbal and prepositional forms are particularly problematic to the relative chronology proposed by Schrijver, since his formulation of the development in question is /ě, ĩ/ > /i/ specifically in word-final position. Schrijver consequently explains the variation of spelling in compounds such as **aremagios/arimus** or **ategnatus/atimallis** to “remodelling ... in compounds” after the change **ati/ari* > **atı/arı*, but prior to the further development **atı* > **at* (Schrijver 2007:365). Although this is possible, given that the prepositional elements of compounds are readily identifiable with their corresponding independent prepositions and preverbs, it must be noted that this is not the only explanation offered for the spelling variations attested. Koch (1987:146), for example, suggests that “vowel reductions... pattern after the position of the Indo-European accent; thus the Gaulish prepositions **ande-**, **ate-**, and **are-** show Indo-European *i* centralised to *e*, cf. Skt. *ádhi*, *áti*, *pári*”. This is not, however, an entirely unproblematic proposal, since most of the instances of these preverbs in Gaulish are found in onomastic forms, and therefore would presumably have been accented as nouns, which Koch himself (loc. cit.) takes as being accented either on the penultimate or antepenultimate syllable.

This is not the place for a full discussion of the effect of the accent on vowel quality in Gaulish, but we might note that, of the forms cited above, the only one in which the vowel in question could be immediately post-tonic is **arimus**, which, if taken as /árimus/ rather than /arímus/, precisely preserves the vowel quality taken by Koch as original, despite inherited **ĩ* being post-tonic. Consequently, Schrijver’s suggestion that the preverbal and prepositional elements in compounds were remodelled based on the corresponding independent preverbs seems more compelling than Koch’s account, since it allows the graphical variation observed in the compounds to be motivated by regular phonological change in one of their lexical components. As will be seen below (3.1.2.4.3), however, this suggestion that compounds are remodelled on the basis of the current form of the corresponding preverb or preposition is problematic for other elements of Schrijver’s account of Gaulish sound change, particularly the loss of **-d#*. The convergence of **ě* and **ĩ* in word-final position does, however, seem clearly to have taken place,

although it is impossible to be sure whether Schrijver is correct to suggest that the result was a Gaulish phoneme /ɪ/.

A third possibility, raised by Stifter (2008:284), is that the change in vowel-quality in preverbs and prepositions is independent from the apparent merger of *-ě and *-ĩ in forms such as **gobedbi** and **suiorebe**, and relates to their being pretonic or unstressed words. This separation of the two developments avoids the problems of Schrijver's model regarding the remodelling of compound nominal forms on the basis of phonological developments in their constituent elements. This idea is developed further by Uhlich (2010), who analyses the evidence of preverbs in etymological final *-ĩ across Celtic (cf. esp. 2010:145–46), and suggests that there was a Proto-Celtic development **aC(C)ĩ- > *aC(C)ě-* in proclitic elements, such as preverbs. The spelling alternations in Gaulish are then explained as reflecting a further reduction of /ě/ to [ə] or [i] in unstressed positions, ultimately resulting in syncope (2010:148–49). Since syncope in compounds is not restricted to elements of the shape **aC(C)ě-*, nor indeed just to preverbs or prepositions (cf. Schmidt 1957:92), it might be best to see these forms as a result of general weakening of liaison vowels in compounding, and therefore independent from the merger of final *-ě and *-ĩ, as suggested by Stifter.

3.1.2.3 Apocope of final /i/ (or /ɪ/)

A peculiarity of the Gaulish verbal system is the scarcity of evidence for primary verbal endings in *-ĩ. Although 1sg. forms are found with the ending *-mi*, e.g. **pissíumi** (*RIG* L-100, 10), **iegumi** (*RIG* L-93, 4), these are often interpreted as containing the pronoun *-mī* < PC **mī* < PIE **mē*, rather than inherited primary **-mĩ* (e.g. Lambert 2003:64). The only firm evidence for retention of the primary ending **-mĩ* is the athematic verb **ıııı** (G-13), 'I am', to be discussed further below. There is, however, very little evidence at all for the inherited primary 2sg. **-si* and 3sg. **-ti* in Gaulish, which has prompted suggestions that the final vowel of these forms was lost at an early stage in the language. The two main schools of thought on *i*-apocope in Gaulish are represented by Schrijver (e.g. 2007:360–65) and McCone (1996b:100–102; 2006:227–32). For Schrijver, Gaulish *i*-apocope, or more strictly in his terms *ɪ*-apocope, is a phonologically conditioned sound change, restricted to the sequences **-ti* and **-si*, and follows the loss of final **-d* and the merger **-ě#*, **-ĩ#* > /ɪ/, described above. Additionally, Schrijver (2007:369) supposes that the same series of changes applies for Irish and Brittonic, and that they possibly represent a shared development of these three branches of Celtic. For McCone, there was no Gaulish *i*-apocope, and it instead represents an Insular Celtic isogloss. It must be said that Schrijver and McCone hold different views on how *i*-apocope functioned in Irish and Brittonic, and these conceptions affect how they see any corresponding phenomenon taking place in Gaulish. McCone (1996b:101) sees the apocope of **-ĩ* as a general phenomenon, affecting all instances of this phoneme in absolute word-

final position, whereas Schrijver, as already mentioned, formulates *i*-apocope as only taking place in the sequences **-si#* and **-ti#* < **-Cě/i#*, in both Insular Celtic and Gaulish.

McCone (1996b:100–102) objects to Gaulish *i*-apocope on a number of grounds. Against a general apocope of **-i#* in Gaulish, corresponding with his formulation of the sound-change for Insular Celtic, he can cite several forms in which this phoneme is quite clearly preserved. Dative-locative forms such as **μαγουρειγι** (G-121), **ατεμαγουτι** (G-122) and **ΕΠΑΘΑΤΕΧΤΟΡΙΚΙ** (L-6), in which McCone would derive the ending from Proto-Celtic locative singular **-ī* < PIE **-ī*, can be cited as counterevidence to the loss of **-ī* in word-final position. Alongside these forms, the verbal form **ιμι** (G-13) < **h₁es-mi*, ‘I am’, demonstrates the retention of **-ī* in the athematic 1sg. ending. Only one of these forms, **ατεμαγουτι**, is relevant to Schrijver’s theory, however, since it retains a sequence *-tī*, which according to Schrijver should have been lost. The other forms are not all equally certain in their interpretation. The forms **ατεμαγουτι** and **ΕΠΑΘΑΤΕΧΤΟΡΙΚΙ** can be established as dative-locative singular forms relatively securely due to their syntactic contexts, the former by its agreement with the *o*-stem dative **οννακουι**, the latter because its inscription can only be read intelligibly if it is an indirect object. The segmentation of G-121 is unclear, however, and it is possible to interpret **μαγουρειγι** as a genitive in *-ī* of an anthroponym **Magurīgos*, rather than as a dative-locative in *-ī* of **Magurīx* (RIG I:158).

Although **μαγουρειγι** is somewhat ambiguous, it would seem nonetheless that McCone makes a legitimate point in objecting to the general apocope of final **-ī* in Gaulish. Despite these objections, however, there are advantages to Schrijver’s theory of a limited apocope of **-ī* in the language. In the first instance, it is an observable fact that there are very few certain occurrences of etymological **-ī* in Gaulish, and even fewer after **s* or **t*. As has already been mentioned, this is particularly striking when one considers the verbal morphology attested in Gaulish, which provides little-to-no evidence of 2sg. **-si* or 3sg. **-ti*, despite the fact that the great majority of the preserved verbal material appears to belong to the second and third persons. We consequently have to assume either that most or all of the attested second- and third-person verbal morphology in Gaulish displays the secondary endings **-s* and **-t*, or that the inherited primary endings **-si* and **-ti*, and perhaps also the plural endings **-mosi*, **-tesi* and **-nti*, lost their **-i* by regular sound change. Much of the evidence that Schrijver (2007:363) cites in favour of this development is far from unproblematic, however. The forms he refers to are: **senant** (L-14) < **senanti*, to which Schrijver compares Sanskrit *sánitar-*, ‘winner’; **ια[-]ιαντ** (G-163), of uncertain meaning and etymology; forms **bissiet** (L-100, 11) and **petidsiont** (L-98, 2B.9), generally analysed as future tense forms deriving from **-sje-ti* and **-sjo-nti*, respectively.

The first two examples are quite inconclusive, since their contexts provide little additional information to aid in their interpretation. The forms are found on dedicatory columns, both of

which have been damaged to a greater or lesser extent. The older form, **ια[-]ιαντ**, not only lacks an etymology, but also any certainty as to its spelling: Lejeune (*RIG* I:235) notes that, depending on how one interprets the preceding form, it could be read as either **αια[]αντ** or **α[]αντ**.⁸⁷ Since we have no indications of the semantics of the form, it is impossible to say whether a primary or secondary ending would be expected. Since the rest of the text on G-163 consists of a *jo*-stem nominative plural form, **ιμουριοι**, and two datives, **τελλ[]ουεσιουι** (*jo*-stem) and **τοουτονι(αι)** (*i*-stem or *jā*-stem), it seems reasonable to assume that they denote the giver and recipients of the dedication. This would suggest that **(αι)α[-]ιαντ** could be reasonably interpreted as meaning something akin to ‘dedicate’. Given that other Gaulish dedicatory formulae have their verb in the past tense, e.g. **δεδε** (G-27, *inter alia*), **ειωρου** (G-153), it is perhaps not unreasonable to assume that the verb here is also past-referring, and consequently shows the secondary ending **-nt*, rather than apocopated primary **-nti*. Since the form remains without etymology, however, this can only be a very tentative theory.

The second example, **senant̄**, is similarly difficult to interpret. It is found on a four-sided column, consisting of four separate blocks, giving a total of sixteen inscribed faces. The Latin inscription on the face adjacent to that containing **senant̄** declares that it was dedicated by the *Nautae Parisiaci* to the Emperor Tiberius and the god Jupiter.⁸⁸ The other parts of the column depict various Roman and Gaulish deities, with their names inscribed above each depiction, and thus provide few clues to the interpretation of form in question here. In addition to the faces bearing the Latin dedication and **senant̄**, the other faces of the block on which they are found depict the donors of the column, labelled **eurises**, ‘dedicators’, probably from the same root as **ειωρου**. The other face depicts two younger men, dressed similarly to the *Eurises*, suggesting that they are younger members of the same group.

The form **senant̄** is written above a depiction of three figures, who, like the other figures depicted on that block, are presumably not deities. Unlike the other figures on the column, they appear to be either men wearing Romanesque togas, or perhaps women (Duval 1954:71) The only certain verb on the column is 3pl. perfect **posierunt**, ‘placed’, in the Latin dedication, which provides no indication as to how to interpret the form **senant̄**. Since **senant̄** is found on one of the illustrated faces, we can reasonably assume that it somehow describes the contents of that panel, but we cannot establish whether this would have been done with a verb in the present or past tense; indeed the other faces contain no verb at all. For his part, Schrijver (2007:363) derives **senant** <

⁸⁷ Lejeune does not give the ending of the verb as **ιαντ**, despite having transcribed it as such (*RIG* I:231).

⁸⁸ The Latin inscription (*CIL* XIII, 3026 b 4) reads: **Tib(erio) Caesare Aug(usto) Iovi Optum(o) Maxsumo nautae Parisiaci publice posierunt.**

senanti* < ?senH-*, giving a possible cognate in Sanskrit *sánitar-*, ‘winner’, but this etymology is quite problematic. The greatest problem with Schrijver’s etymology is that the Indo-European root **senH-*, recte **senh₂-*, ‘erlangen, erwischen’ (*LIV*²:533–534) forms nasal-infix presents in several Indo-European languages, including OIr. *do-seinn*, ‘hunts’⁸⁹. A nasal present of this root would regularly give Proto-Celtic 3pl. **sannanti* < PIE **sṇ-n-h₂-nti*, which, presuming that *i*-apocope did indeed take place, should yield Gaulish **sannant*. It is consequently difficult to explain the *e*-vocalism in **senant̄** if Schrijver’s etymology is accepted, particularly since no form of the present tense paradigm would have had the full grade of the root. A root-aorist formation, PIE **sṇh₂-ent* > PC **sanant* → **senant* (by generalisation of the full-grade), could easily yield Gaulish **senant̄**, however.

Furthermore, it must be noted that the top of the final letter of the form is broken, meaning that a reading as **senan̄i** is also possible, although the letter-spacing does allow the letter reasonably to be interpreted as <t>. If the reading **senan̄i** were accepted, however, the form might instead be interpreted as a noun, derived from Proto-Celtic **sen-* ‘old’, well attested in Gaulish onomastics (cf. *DLG*:270–71), and thus possibly refer to a group of elders, as distinct from the younger figures illustrated on the other faces of the block. To conclude, it cannot be established with any certainty that **senant̄** represents an earlier **senanti* with *i*-apocope, and indeed a derivation of this form from an inherited aorist rather than a present tense form is rather simpler. As with **ia[-]iaut̄**, however, it cannot be entirely precluded that **senant̄** is a present tense form, and thus attests apocope of final **-ī*.

The two future tense forms **bissiet** and **petidsiont**, in contrast, stand scrutiny quite well. They are generally taken (e.g. Lambert 2003:65; *DLG*:76, 249) as corresponding to the Sanskrit future tense in *-sya-* < PIE **-sṣi^e/o-*, which is regularly found with primary, rather than secondary endings. On comparative grounds, therefore, it seems valid to assume that Proto-Celtic also formed future tenses in **-sṣi^e-ti*, etc, which, after apocope, produced the attested Gaulish forms. We are consequently left in a difficult position: there appears to be good evidence for the retention of etymological **-ī#*, even after /s/ and /t/, and yet assuming that a sound-change **-si*, **-ti* > **-s*, **-t* took place allows us to account for some Gaulish forms much more easily, as well as explaining the profusion of Gaulish verbal forms attested without primary **-ī*. It is, therefore, necessary to

⁸⁹ This is not a direct reflex of the PIE nasal-infix present, but the root-final geminate /nn/ certainly betrays the fact that such a present formation was inherited by Proto-Celtic. The etymology of the form, as presented in *KPV* (558–9), is *do-seinn* < **sṷann-e/o-* ← **sann-e/o-* ← **san-na-* < **sṇ-né-h₂-*; the reader is referred to *KPV* for discussion of the developments leading to the attested form.

analyse the data in question more closely, in order to attempt to establish whether they can be explained in a way which better accounts for all of the attested examples.

The possible examples of retention of final **-ǵ* after /s/ and /t/ are the following:

- **ατεμαγουτι** (G-122), if dative-locative singular < PIE locative **-ǵ*;
- **auoti** (L-43), although generally analysed as *auot=i*, with suffixed pronoun (*RIG* II.2:140);
- **bueti** (L-101, B1), 3sg. subjunctive < **b^huh_x-e-ti*;
- **εσκεγγολατι** (G-13), dative-locative singular;
- **]esi** (L-98, 1A.9), if from **h₁es-(s)i*;
- **eti** (frequent at La Graufesenque, see Marichal 1988:100–101; *RIG* II.2:120) < **(h₁)éti*, cf. Greek *ἔτι*, Latin *et*, Vedic *áti*;
- **íexsetesi** (L-93, 2), analysis uncertain, perhaps 2pl. subjunctive (Lambert 2001a:96);
- **peti** (L-98, 2B.10), ‘save!’, perhaps better taken as a thematic imperative **k^uet-e*, with convergence of **-ǵ#* and **-ǵ#*;
- **ῥεῗ<s>etesi** (L-93, 5), if taken as 2pl. subjunctive (Mees 2011:100)
- **]rionti** (L-98, 2A.3), if taken as 3pl. **be]rionti** (Mees 2011:100);
- **senti** (L-69, B.5), possibly 3pl. **senti* < **h₁s-enti*, ‘are’;
- **sioxti** (L-31), if taken as a primary 3sg. (de Hoz 1997:110), rather than a reduplicated preterite with an enclitic, already considered and rejected by Thurneysen (1927);
- **tíedi** (L-51), if corrected to *tíedi* and interpreted as **ti-esti*.

Notably, the most secure examples in the list above are nominal forms or particles, and a number of the possible verbal forms which retain final **-ǵ* have been connected etymologically with the copula verb PIE **h₁es-* > PC **es-*. The form **peti** (L-98) should probably be excluded, as it is likely either to be an imperative in **-ǵ* after the convergence of **-ǵ* and **-ǵ*, or, as Mees (2008b:126) suggests, <i> may represent /i/, with **peti** < **k^uet-je*. Mees’ suggestion (2008b:130 n.10; 2010:100) that **]rionti** (L-98, 2A.3) should be restored to **be]rionti**, ‘they bear’ seems unlikely, however, since no formation **ber-ǵ^e/o-* is attested in the other Celtic languages (*KPV*:218–23), nor indeed **b^her-ǵ^e/o-* anywhere else in Indo-European (*LIV*²:76). The form might instead be more reasonably interpreted as a feminine singular nominative or neuter plural nominative/accusative participle in **-ontī* < **o-nt-ih₂*, or perhaps as a dative-locative **-ontǵ*.

3.1.2.3.1 Secure examples of retention of **-ǵ#*

In **ατεμαγουτι**, **εσκεγγολατι** and **eti**, the presence of final *-ǵ* is quite secure on etymological grounds. In G-122, **ατεμαγουτι** is immediately followed by the form **οννα|κουι**, which is clearly

an *o*-stem dative singular $-\bar{u}i < \text{PIE } *-\bar{o}i$. The form **εσκεγγολατι**, in its context **εσκεγγολατι ανια/τει/ος ιμμι**, “I belong to E, and am not to be carried off(?)” (*RIG* I:40), could be either an *o*-stem genitive in $-\bar{i}$ or as a dative-locative in $-\bar{i}$, but the presence of a nominative singular **τανκολατις** on G-72 (*RIG* I:96) appears to suggest that the onomastic suffix $*-lati-$ forms *i*-stem nouns, which did not have genitives in $-\bar{i}$ in Gaulish.⁹⁰ Since we would expect an *i*-stem dative singular $-\bar{e} < *-e\bar{i}$, and a locative $*-\bar{i}\bar{i} (> *-\bar{i}?) < \text{PIE endingless locative } *-\bar{e}\bar{i}$, it is possible that the dative-locative ending $-\bar{i}$ was imported from the consonant stems into the *i*-stem paradigm. The orthography does not allow us to be sure, however, and indeed **εσκεγγολατι** could simply continue the *i*-stem endingless locative just mentioned, with dative-locative $-\bar{i} < \text{PC } *-\bar{i}\bar{i} < \text{PIE } *-\bar{e}\bar{i}$.

Schrijver (2007:367) presents a somewhat convoluted account of **ατεμαγουτι**, first suggesting that it may reflect the Proto-Celtic dative ending $*-e\bar{i}$, which seems unlikely, given that Proto-Celtic $*-e\bar{i}$ regularly yields Gaulish $/\bar{e}/$ (Lambert 2003:44). He then suggests that this form, along with **μαγουρειγι** (G-121) and **ΕΠΑΔΑΤΕΧΤΟΡΙΚΙ** (L-6), might reflect inherited ablatives in $*-ed > *-e > *-\bar{i}$. As seen at 3.1.2.1.4, however, despite the Celtiberian evidence for the ablative, it is not clearly attested in Gaulish: Lambert (2003:51–64) can provide no examples of this case for the language. It is therefore unappealing to suggest its preservation purely to explain this inflectional ending, which can be readily explained as continuing a locative in $*-\bar{i}$. Furthermore, Schrijver is forced to assume analogical restoration of the ending he interprets as $/-\bar{i}/$ in **ατεμαγουτι** in order to explain this form. Although by no means impossible, this is certainly less efficient an explanation than assuming that the ending was simply retained. Morphologically, a synchronically ‘endingless’ dative-locative $*atemagout-\emptyset$ would be aberrant among the consonant-stems generally, but probably not ambiguous, since it would not have been syncretic with other case endings. Since, under Schrijver’s hypothesis, all *s*- and *t*-stem nouns and adjectives would have lost the dative-locative ending $/-\bar{i}/$, whether it derives from a Proto-Celtic locative $*-\bar{i}$ or ablative $*-\bar{e}d$, these would have formed a relatively large discrete class of endingless dative-locatives synchronically in Gaulish, so analogical pressure towards restoration of $*-\bar{i}$ would not have been exceptionally strong. It would seem more economical, therefore, to assume that the ending $*-\bar{i}$ is retained in **ατεμαγουτι** and **εσκεγγολατι**, rather than to explain them as having undergone apocope and subsequent analogical restoration of the ending.

The conjunction **eti** has well-established etymological connections (Greek $\acute{\epsilon}\tau\iota$, Latin *et*, Vedic *áti*) and seems to mean ‘similarly, also’ in its use at La Graufesenque, where it is paralleled in Latin by *idem* or *item*, ‘the same’. It is also found compounded with the enclitic particle $*ku\acute{e}$ in the forms **etic** (L-98, 1B.1; L-100, 7) and **eddic** (L-100, 3), where it appears to function as a conjunction

⁹⁰ Cf. also apparently masculine *i*-stem acc. sg. **Arueriátin** (L-100, 2), with the similar suffix $-\bar{ati}$.

between noun phrases, e.g. **sní eddic sos** (L-100, 3), ‘us and them’ (Eska 1997:174 and *passim* for the identification of **etic** with **eddic**). There does not seem to be any evidence of apocope of final **-ī*, either in simple **eti** or in its compound forms. This form therefore provides good evidence for the retention – at least into the first century CE – of some instances of etymological **-ī#* in Gaulish. The nominal dative-locative forms, although explicable through analogy with other consonant-stem nouns, also provide some evidence of the retention of **-ī#*, albeit weaker due to the possibility of other explanations.

3.1.2.3.2 Final **-ī* in the root **h₁es-*

The forms **Jesi** (L-98, 1A.9), **tiedi** (L-51) and **senti** (L-69) have all been suggested to continue the Proto-Celtic root **es-*, ‘be’ < PIE **h₁es-*. If these interpretations are correct, they represent clear exceptions to the apocope of **-ī* in Gaulish, which must be explained. All three forms face difficulties of interpretation, but could reasonably be derived from this root. Regarding **Jesi**, Lambert’s suggestion (2003:169) that it might be restored as **dJesi**, 2sg. imperative or present indicative ‘put!, you put’, from PIE **d^heh₁-si*, cannot easily be accepted. An unreduplicated athematic root present for this root is not securely attested elsewhere in Indo-European, rendering the reading as a present indicative difficult.⁹¹ Moreover, PIE **d^heh₁-si* would have yielded Proto-Celtic **dīsi*, and the \emptyset -grade of the root would have yielded, for example, Proto-Celtic 3pl. **danti* < **d^hh₁-nti*, meaning there would have been no basis for analogical extension of a plain *e*-grade to the 2sg.. Due to the break just to the left of **Jesi**, however, we cannot be sure whether it was originally preceded by another letter, although it must be noted that there is enough empty space before the letter <e> that we might be quite confident that this is the start of the word. The possibility of a missing letter does, however, decrease the degree of certainty with which the form can be attributed to **es-*, ‘to be’, at least on purely formal grounds. Regarding its broader context, there is very little evidence in the rest of L-98 for 2sg. verbs, which weakens the case for interpreting **Jesi** as such, whether it be as **desi* or **esi*. An argument might reasonably be made, following Lejeune et al. (1985:50), for deriving it from PC 3sg. **esti*, particularly given the spelling <s> for Gaulish /t^s/ seen also in **lisatim** (L-98, 2A.6).⁹² Such an interpretation of the form

⁹¹ Hittite *tēzi* < **d^héh₁-ti* appears to be the only exception, but can also be explained as a back-formation from the aorist (so Jasanoff 2003:84). Even if **d^héh-ti* were taken as a PIE present tense formation, as it is by Kloekhorst (2008:858), it seems anachronistic to project this formation onto Celtic, given the evidence for reduplicated present formations, e.g. Celtiberian **zizonti**.

⁹² Mees (2008b:131) implies that **esi** is a pronoun, meaning ‘of this (group)’, by translating **in eianon anuan[a] esi andernados brictom** (1A.8-9) as “upon their names, the enchantment of this group hereunder”. It is not impossible to postulate **esi** < **sesī*, a masc. gen. sg. demonstrative, with *o*-stem **-ī* ←

allows the sequence **in eianon anuan[a] esi andernados brictom** (1A.8-9) to be translated “upon their names is the enchantment of the below/infernal powers(?)”, implying that *-ī was retained in the 3sg. of the verb *es-.

The form **tiedi**, found on a short inscription on a vase from Banassac (*RIG* L-51), has also been attributed to the root *es-, ‘be’ (PIE *h₁es-). Two possible etymologies from this root have been suggested, both resting on the assumption that **tiedi** is a scribal error for ***tiedi**, where <đ> would be the expected spelling of /t̥/, the result of either *-st- or *-ts-. Lambert’s (2003:142) derives the form from *ti-es-ti > tiedī, ‘tu seras’, with the forms reconstructed as *ti both representing the 2sg. pronoun, seemingly in the nominative singular to agree with *es-. Although this would produce the attested form, it is difficult to explain both the duplication of the personal pronoun and its form. Both OIr. *tú* < *tu and MW *ti* < *tuh_x continue Indo-European nominative forms (Stüber 2017:1208), meaning that the comparative data provide little reason to suppose the substitution of an oblique *ti, presumably deriving from the dative singular *toj, for inherited *tu(h_x). It might, however, be supposed that what Lambert means by *ti is in fact *tī, which would have to be a Gaulish-internal replacement of inherited *tu or *tū on the model of Proto-Celtic nom./acc. sg. *mī, which displaced PIE nom. sg. *h₁eĝ(oH) within Proto-Celtic (cf. MW *mi*, Gaulish *íegu-mi*, etc.).

It should also be noted that, since Gaulish appears to have had a reasonably well-developed future tense category, the suggestion that the indicative present form *es- in *ti-es-ti might have future tense semantics – implied by Lambert’s translation “tu seras” (2003:142) – is somewhat doubtful, although by no means entirely impossible. Lambert also suggests that *es- might be subjunctive, since he includes **tiedi** in his list of Gaulish subjunctive forms (2003:64). This is, however, a rather difficult interpretation of this form. The expected 2sg. subjunctive of *es- in Gaulish would be *eses(i) < PIE *h₁es-e-s(i), cf. Latin *eris*. In order to interpret *es- as a subjunctive, therefore, it is necessary to postulate a haplology *eses(i) > *es(i). It is difficult to see when this might have happened without causing homomorphy between the subjunctive and either the 2sg. present indicative *esi < *h₁es-(s)i or imperfect indicative *es < *h₁es-(s). An identification of this form as a subjunctive is unappealing, therefore, and will be omitted from further discussion of the subjunctive in Gaulish.

The etymology given by Fleuriot (1975b) is somewhat easier to accept. He derives **tiedi** from *ti-esti, glossing it with Latin “tibi est”, with *tī < dat. sg. *toj. Formally, this is rather more credible

*sesjo or similar, since Stifter (2012a:532) has shown that pronouns in unstressed attributive position sometimes lose initial *s. The collective suffix *-ad-, however, which appears in the genitive singular **andernados**, ‘of the below’, forms feminine, not masculine, nouns in Greek, e.g. ἡ δῦάς, δῦάδος, ‘pair’, suggesting that we ought to expect *esās *andernados*, rather than **esi**, if it were an attributive pronoun.

than the suggestion that the pronoun **ti* is repeated on either side of the conjugated verb. Furthermore, the use of the verb ‘to be’ and an oblique pronominal form to mean ‘have’ has good parallels in Insular Celtic, e.g. ‘*Má no bith ém mo chlaideb acom-sa, ol Fergus, “If I had my own sword,’ said Fergus”* (O’Rahilly 1976:120). The rest of the inscription could provide some clue as to the interpretation of **tiedi**, although the interpretation of the other forms is also quite unclear. The full text is **lubi rutenica onobia | tiedi ulano celicnu**, in which *lubi* is often taken as a 2sg. imperative, ‘love!’, comparatively well attested in the Gaulish graffiti, although still by no means entirely secure in its interpretation.⁹³ Since the first line of the inscription is followed by clear space, in which the start of the second line might have been written, the scribe apparently chose to start a second line for reasons beyond the purely practical, as has indeed been suggested by Pailler (2008:342). Pailler also highlights that there appears to be a sort of rhyming pattern within each line, with the final syllables of the second and third word of each line displaying assonance, creating a parallel structure between the two lines: **rutenica** with **onobia**; **ulano** with **celicnu**. This opens the possibility that the second line of the text forms an apodosis to the first line, with a tentative translation “You should love Rutenian drink: you have (here) satisfaction in the dining-chamber”, following Delamarre (*DLG*:331). We would appear, therefore, to have a clause-initial form of **es-*, its ending *-ti* having survived apocope of **-ī*.

The form **sentī** is from a very fragmentary, poorly understood inscription on a potsherd from Lezoux (L-69). As with the more famous Plat de Lezoux (L-66), the inscription was made after the clay was fired, making it somewhat more difficult to read than those inscriptions made prior to firing. There is a break immediately to the left of **sentī**, and a trace of a letter visible between the break and the start of the form, meaning that it is possible that the sequence **].sentī** is simply the ending of a longer form, rather than an entire word itself. If **sentī** is intact, from a formal perspective it could directly continue Proto-Celtic **senti* < PIE **h₁s-énti*. If taken as such, this form would provide further evidence for the retention of final **-ī* in the forms of **es-* in Gaulish, but given that the form is immediately preceded by a break, and the rest of its context is so fragmentary, we cannot be certain that we are here dealing with a form deriving from **h₁s-énti*, or indeed that the final <i> of this form represents /ī/ rather than /i/.

Although not from the root **h₁es-*, the form **bueti** (L-101, B1) can reasonably be treated alongside the forms of this root. The roots **h₁es-* and **b^huh_x-* appear quite likely to have been suppletive to each other from an early stage in Celtic, given that they function this way in the daughter languages. It is not entirely certain that **bueti** should be read on L-101, rather than **buetid**, since

⁹³ Schumacher (*KPV*:53 fn. 46) legitimately objects that a full interpretation can be made of none of the inscriptions in which the form *lubi* appears, making it unclear whether it is even a finite verbal form.

the immediately following letter is \mathbf{d}, but there is a sufficiently large space left before it that **bueti** might be read with some confidence. Formally, **bueti** probably reflects a 3sg. subjunctive $*b^huh_x-e-ti > *bu\grave{x}eti$ (KPV:241), although it is possible that trisyllabic PC $*bu\grave{x}eti$ would have developed into disyllabic Gaulish / $bweti$ /. The form is the first word of the second half of the text, and a gap is left at the end of the first half, so it is possible that it is the first word of a sentence, but the interpretation of the text, which is damaged and very obscure, is too uncertain to be sure whether this is actually the case.

In summary, between the three possible forms of the Proto-Celtic root $*es-$ attested in Gaulish which might have undergone apocope as predicted by Schrijver, circumstantial evidence is found for the retention of final $*-i$ in the case of this verb. Given that, in the great number of instances, apocope of $*-i$ would have produced monosyllabic forms in the paradigm of the root $*es-$, e.g. $*es < *h_1es-(s)i$, $*est < *h_1es-ti$, $*smos < *h_1s-me/\circ si$, it may simply be that there was a constraint on the operation of i -apocope, that it could only apply to forms of at least three syllables. If **bueti** is also taken into consideration, this would appear to bolster the argument that apocope did not apply if the resulting form would have had only one syllable, since $*bu\grave{x}et$ would have been the monosyllabic result of apocope of this form, although the form **bued** (L-98, 2B.2),⁹⁴ perhaps implies that **bueti** retains primary $*-i$ due to its position, rather than as a result of a restriction on the operation of apocope on forms with only two syllables. If **bueti** is interpreted as trisyllabic / $buweti$ /, however, it does not provide any counterevidence to this restriction. It is, however, impossible to say for certain which syllabification of the form is correct.

3.1.2.3.3 *íexsetesi* and *řex<s>etesi*

Mees (2011:97–98) treats these two forms as “continental equivalent[s]” to Insular Celtic absolute verbal forms. He interprets both as 2pl. subjunctives, reconstructing the primary ending $*-s-ete-si$, which he suggests is either inherited or analogical. In Mees’ segmentation of the text, **íexsetesi** is the first word in its clause, which might account for the retention of its final $-i$. There remains room for doubt, however: although Mees makes a compelling case for interpreting L-93 as a curse tablet, and produces one of the more sensible translations of the text to date, it is not wholly certain that he is correct to identify **íexsetesi** as the start of a sentence, and other interpretations of the form have been presented, e.g. 2pl. subjunctive/preterite $*i\grave{x}sete$, with suffixed 2pl. pronoun $*=s\bar{i} < *su\bar{i} < *su\bar{e}$ (Lambert 2001a:96). Lambert cannot, however, adequately explain the fact that his suffixed pronoun $*=s\bar{i}$ is followed directly by another 2pl.

⁹⁴ Either / $b\grave{x}et^s$ / $< *b\grave{x}et=s$ (Lambert 2003:173) with an otherwise undefined particle or pronoun, or [$b\grave{x}e\theta$], by non-phonemic lenition of / $b\grave{x}et$ / (Eska 1997:175–76), or possibly [$b\grave{x}et^s$] $< *b\grave{x}eti$ with the “non-phonemic affrication” suggested by McCone (2006:228), followed by apocope?

pronoun **sue**.⁹⁵ He suggests that the sequence **íexsetesi sue** should be translated “vous devrez dire, vous” or “vous avez dit, vous”, which appears to imply that he takes the additional pronoun as emphatic. Since Gaulish is a pro-drop language, the enclitic subject pronoun **-si** would presumably already have been emphatic, making it difficult to understand why yet another pronoun should have been added for emphasis. Consequently, Mees’ interpretation of **íexsetesi** is perhaps to be preferred. Although the evidence for a system of absolute and conjunct inflection in Gaulish is at best limited, largely due to the fact that very few instances of VSO word order are attested in Gaulish, it seems sensible to interpret **íexsetesi** as the first word of its sentence, and explain the retention of final **-ǵ* as a result of its position.

Identifying **ṛeḡ<s>etesi** as an absolute verbal form is more problematic. In Mees’ interpretation, it is the second word of its clause, being preceded by the word **sue**, which he suggests may be an adverb, similar to **su[a]**, possibly ‘so, thus’ on L-98, 2B.7 (2011:100). It might also be noted that an apparently “absolute” verbal form **rinoti**, ‘sells’, has been found preceded by an element **se**, ‘this (indeclinable)’ on the Rezé lead plaque (Lambert and Stifter 2012), which might be comparable syntactically with this analysis of **ṛeḡ<s>etesi**, in that both sentences appear to allow an uninflected word to precede a verb with preserved primary **-ǵ*. Strong opposition to the interpretation of this form as retaining primary **-ǵ* has been voiced by Eska (2014:56–59), however, who prefers to take **rinoti** as an apocopated form *rinot*⁹⁶ < **p_r-né-h₂-ti*, followed by an enclitic particle =*ǵ* < **id* or =*ī* < **ih₂*. Ultimately, it remains unclear whether **ṛeḡ<s>etesi** can be interpreted as an “absolute” form, retaining primary **-ǵ*, although it is possible that a rule of Gaulish morphosyntax could be proposed that primary **-ǵ* is retained when the verb is either in first position or preceded only by an uninflected element, such as the adverb **su[a]** or uninflected pronominal **se**. A good Celtic parallel for such morphosyntax would be OIr. *má*, ‘if’, which appears clause-initially and is followed by absolute, rather than conjunct, verbal forms. Even if it is uncertain that **ṛeḡ<s>etesi** retains final **-ǵ*, the form **íexsetesi** seems a good candidate for identification as such a form, given that it appears to be the first word of its sentence, which would suggest that it was stressed and thus less perhaps likely to have undergone apocope.

3.1.2.3.4 *auoti*

The form **auoti** (L-43) is a variant of the frequently attested verbal form **auot/αυουωτ**, which appears to correspond to Latin *fēcit* and Greek *έποίη* (DLG:61), but has no certain etymology.

⁹⁵ Although Lambert briefly suggests that the pronoun **sue** might be reflexive (2001a:97), this is not reflected in any of the translations he provides of the segments of text containing it, implying that he does not favour this interpretation.

⁹⁶ With Gaulish <o> representing [ō] or [ō̄], as suggested by Eska (2014:n. 12).

Lambert (*RIG* II.2:35) suggests that the etymology may be **a_u-_ued^h-*, from PIE **_ued^h-*, ‘führen’ (*LIV*²:659), and that the *o*-grade root indicates that the form derives from the Proto-Indo-European perfect. Semantically, he compares **a_u-_ued^h-* to German *ausführen*, ‘carry out, execute’. There are two principal difficulties with such an analysis. First, as noted by Schumacher (*KPV*:742–43), it implies that Gaulish possessed de-reduplicated perfects, which are otherwise unattested in the language. This is, admittedly, a difficult argument to support when working with a language as fragmentary as Gaulish, but does cast doubt over Lambert’s reconstruction. Secondly, as Delamarre (*DLG*:62) notes, the fact that the form is so consistently spelled with final <ṭ> or <ṛ> militates against an Indo-European root with final **d^h*, which would regularly produce Gaulish /d/. Lambert’s attempt (*RIG* II.2:35) to account for the root-final /t/ is also weakened by both phonological and morphological considerations. He reconstructs **_uod^h-ti > *_uotti > *_uott* (*RIG* II.2:35), with **_uod^h-ti* presumably replacing an inherited unreduplicated perfect **_uod^h-e*, although this is left unsaid. Since **auot** is used in parallel to the Latin perfect *fēcit*, however, his suggestion that it had developed by apocope from **_uotti* – with 3sg. primary **-ti*, which would generally indicate present-tense semantics – is unappealing. It is also by no means clear that **_uod^h-ti* would assimilate to **_uotti*, and indeed Lambert himself apparently assumes the retention of **-dt-* at morpheme boundaries when he reconstructs the development of the Gaulish ethnonym **Adtrebatīs* (2003:35, 60).

Consequently, despite Schumacher’s concession that a satisfying etymology of the form is difficult to find, it may be worth accepting his suggestion (*KPV*:742) that **auot**, in its various spellings, is in fact an abbreviation, along the lines of *fec.* for Latin *fēcit*. If this explanation is accepted, **auoti**, along with other variants such as **auotti**, **auote**, and **auotis**, which Lambert (*RIG* II.2:33–34) struggles to explain satisfactorily, can be explained as the 3sg. preterite form of this verb, with the ending from the 3sg. perfect **-ē*. The variation between <i> and <e> can then be explained by the convergence of **ē* and **ī* (3.1.2.2.).⁹⁷ If this were the case, it would date the convergence of **ē*

⁹⁷ The variant **auotis** may then be segmented as *a_u_uoti=s*, with final =s representing an enclitic, possibly an object pronoun. A good candidate for this pronoun might be the Gaulish word *se*, ‘this (indeclinable)’, found three times in L-98 before forms of the word for “woman”, nom. sg. **benā < *g^uénh₂*, with which it does not agree morphologically: **se bnanom** (gen. pl.: 1A-1; 2A-8, spelled **semnanom**); **se mn[as]** (acc. pl./gen. sg.?: 1B-9; broken, but with insufficient space for **[anom]**). It is perhaps also attested in **se dagisamo cele** (acc. sg., L-93, 8), “this best companion(?)” (Mees 2011:103). If the loss of **ē* in enclitic position seen in **k^uē* and **dē* also affected enclitic **sē*, the expected result would be =s. Although this is somewhat ad hoc, it at least allows us to account for all other variants of **auot**, and it is eminently credible that a potter signing his wares might want to write “X made this” rather than simply “X made”, with implied object.

and *ĭ after the apocope of *ĭ, although the etymology of **auot** and its variants is too uncertain to provide firm evidence of such an ordering of these developments.

3.1.2.3.5 *sioxti*

The form **sioxti** is found on L-31, a plate from La Graufesenque (see appendix), in the sequence **sioxti · Albanos | panna · extra tuθ CCC**, which appears as a marginal note to the firing list that makes up the rest of the text. The etymology and interpretation of **sioxti** remain somewhat uncertain, and various proposals have been put forward since at least the time of Thurneysen (1927:301–2). Most analyses have taken the form as a preterite of some sort, and have broadly followed the analysis put forward tentatively by Thurneysen. He draws attention to the superficial similarity between **sioxti** and OIr. *siacht*, ‘sought, approached’ < PC **se-sāg-* < Quasi-PIE **se-soh₂g/ĝ-* (LIV²:520),⁹⁸ but the interpretation is rejected both by Thurneysen himself (1927:302–3) and by Marichal (1988:79) on the grounds that Gaulish ought to have preserved intervocalic *s. As Stifter (2012a:538–39) has shown, however, there are good grounds for assuming a limited dissimilatory loss of intervocalic *s in Gaulish in the environment *#s(u)V_(R)V (cf. **suiorebe** < **suesor-*). It is consequently quite acceptable to reconstruct a reduplicated preform for **sioxti**.

Explaining **sioxti** as a reduplicated preterite from PC **se-sāg-t* ← Quasi-PIE **se-soh₂g/ĝ-e* is somewhat problematic for a number of reasons, however. In the first instance, the change Proto-Celtic **ā* > Gaulish <**o**> is not very well-documented, although there are possible parallels. These include the forms **rinoti** and **prino** at Rezé, if, as suggested by Stifter (Lambert and Stifter 2012:161) and accepted by Eska (2014:56 n. 12), <**o**> there represents [ō] or [ɔ̄] < **ā*.⁹⁹ It is also notable that a reduplicated perfect **se-soh₂g/ĝ-* has no cognate forms in any Indo-European

⁹⁸ Naturally, Thurneysen uses pre-laryngeal notation, and would reconstruct the root as PIE **sāg-*. Both **sioxti** and *siacht* can be explained by postulating raising of **e* > /i/ in hiatus, although Eska (1994:206, 208) orders the changes with the raising **e* > /i/ preceding the loss of intervocalic *s, i.e. **e* > /i/ / _sV. Other than *suiorebe* (L-6), ‘with (the) sisters’, where the raising could again be caused by hiatus after loss of *-s-, I know of no further examples of this sound change in Gaulish.

⁹⁹ The development is perhaps paralleled by the Brittonic treatment of PC **ā*, e.g. Welsh *iawn* < Proto-Brittonic **ǵāno-* < PC **ǵāno-*. Further possible examples of Gaulish rounding and backing PC **ā* include *iono* (L-95.8), also thought to be from PC **ǵāno-*; and the anthroponyms IOTURIX and βιτουιστουο, both attested numismatically and perhaps containing the element **ǵāto-*, ultimately < **ǵeh₂-tu-* (Prósper 2019:42, 47). Prósper (2019:41–45) has also shown (*contra* Stifter 2012b:250–51) that it is unlikely that the anthroponym ADNOMATUS – an apparent variant of Gallo-Latin ADNAMATUS (cf. *DLG*:231) in Roman Pannonia – is an example of the development of /ā/ > [ɔ̄] or [ō], but rather might reflect a local dissimilation of /ǵ/ > [ō] in the vicinity of labial consonants.

language other than OIr., and that its semantics ‘seek’ match the context of L-31 poorly. The first of these concerns is less serious, since a reduplicated perfect or preterite stem **se-sāg-* could simply be a Celtic innovation, created to furnish the root with preterite forms, given that no aorist or perfect stem appears to be reconstructible for Proto-Indo-European (*LIV*²:520). The second is more difficult. If the verb is left untranslated, the rest of the sentence can quite simply be interpreted as “Albanos [*sioxti*] 300 *pannas* outside of the furnace”. Given that Albanos is already known from the main text of the firing list to have had three-hundred *pannas sextales* fired in the same batch, it seems unlikely that he would have been ‘seeking’ a further three hundred of them outside of the furnace, as indeed noted already by Eska (1994:207).

Eska (1994:208), for his part, analyses **sioxti** as a reduplicated preterite, and suggests connecting it with Proto-Indo-European **seg-*, ‘heften, anhängen’ (*LIV*²:516), giving the translation “Albanos added them, vessels beyond the allotment (in the amount of) 300”. He also contemplates identifying **sioxti** with the root **sek^u-*, ‘sich anschließen’ (*LIV*²:525), providing the alternative translation “Albanos carried on (and produced) them, vessels beyond the allotment (in the amount of) 300”. In either interpretation, he takes the final <i> of **sioxti** as a neuter nominative/accusative plural proleptic pronoun =*ī* < **ih₂*, which he suggests is required due to the abnormal VSO word order of the sentence, rather than the more frequent SVO word order. It should be noted, however, that the evidence available for VSO in Gaulish is so limited that it is quite ad hoc to suppose that such sentences required an enclitic proleptic pronoun. Moreover, although these interpretations are reasonably satisfactory in terms of their semantics, they require a fairly significant semantic development to be assumed from those generally reconstructed for Proto-Indo-European. The root **seg-* is, it seems, is only attested as a verb in Celtic in MW *heu*, ‘sow’, which seems quite far semantically from the ‘added’ required by Eska’s interpretation.¹⁰⁰ The only reflex in Celtic of **sek^u-* is OIr. *sechithir*, ‘follow’, which again provides little room for the presumed semantic development to ‘carry on’ assumed by Eska. Consequently, although the two interpretations offered by Eska are more satisfactory from a formal perspective than Thurneysen’s derivation from **seh₂g/ĝ-*, neither of them is particularly convincing in terms of the semantic developments they require in order to produce a sensible Gaulish sentence.

A better interpretation of this form might be arrived at by considering the pragmatic context of the inscription. The purpose of the firing lists of the type on which L-31 is found is to provide a

¹⁰⁰ Similarly distant in their semantics are Mlr *sén*, MW *hoenyn*, *hwynyn*, ‘trap, net’ < **segno-*, **sogno-* (Matasović 2009:327). Further possible cognates are Mlr. *seimm*, W *hemm*, both ‘rivet’ < **seχ-sman-*, which is perhaps closer in semantics to Eska’s “add”, but Stüber (1998:66–67) notes that these semantics likely developed from an earlier verbal abstract meaning of “holding” (cf. Greek ἔχω, ‘I have’). The PIE root **seĝh-* thus remains a poor candidate for Gaulish **sioxti**.

catalogue of the wares being placed into a furnace by a number of different potters, in order to prevent confusion between them when they are taken out after firing. It would seem likely, therefore, that this graffito served the same purpose: to prevent the confusion of the wares being described with those of the other potters on the list. If the potter Albanos had presented three hundred *pannas* for firing in addition to his allocation, either because he had “added them” or “carried on”, it seems unlikely that they should have been placed into the furnace, and consequently that they might have been confused with the wares of the other potters on the list. Albanos’ *pannas* could surely only need to be listed if they had been in the vicinity of the furnace at the time of firing. In fact, the meaning of this graffito can perhaps be clarified by closer attention to the form **extra**. This word could be either a preposition, or an adjective agreeing with the noun *panna*, either way being cognate with OIr. *echtar*, MW *either*, both ‘outside, without’.

Such an interpretation would seem to imply that the *pannas* in question were left outside of the furnace, and therefore needed not to be confused with the wares inside upon their removal from the fire. A conceivable reason for this would be in order to accelerate the process of drying the clay in the ambient heat around the furnace ahead of firing, presumably as part of the next batch. In this context, a further etymological possibility is made available for the form **sioxti**: that of deriving it from Proto-Indo-European **sek-*, ‘versiegen, austrocknen (intr.)’ (*LIV*²:523–24), an etymology made more compelling by the fact that not only a reduplicated perfect, but also a reduplicated, *o*-grade present tense form of this root is possibly attested in Vedic *saścasi*, ‘(du) versiegst’ (RV 8, 51.7) and the participial form *á-saścant-*, ‘nicht versiegend’. A reduplicated adjectival formation from **sek-* is also found in Celtic, in OIr. *se(i)sc*, MW *hysp*, MBr. *hesp*, all ‘dry’ < **siskʷo-* ← PIE **sisku-* (cf. Avestan *hišku-*, ‘id.’), further supporting the reconstruction. Although identifying **sioxti** with this root would require a semantic development from “dry out (intransitive)” to “dry out (transitive)”, this would then allow an interpretation of the graffito as “Albanos is drying/has dried out 300 *pannas* outside of the furnace”. The fronting of the verb **sioxti** could then be attributed to contrastive topicalisation, since it would have been important for the reader to note that the wares in question were being dried out rather than fired.

Although this interpretation is admittedly speculative, it does seem better to take account of the function of the graffito in the wider context of the La Graufesenque firing lists, which seems to be vital to any attempt at its interpretation. Moreover, if it is correct to identify **sioxti** with **sek-*, this could be an example of retention of primary **-ǵ* in sentence-initial position, as suggested by Mees (2011:97–98) for **íexsetesi** (3.1.2.3.3). An interpretation of **sioxti** as containing the 3sg. **-tǵ* has previously been suggested in passing by de Hoz (1997:110), although without providing a possible etymology. It must be admitted that the evidence for a present stem **se-sok-* in Vedic is far from overwhelming, and that the forms cited in *LIV*² are thematic, rather than the athematic

form presupposed by **sioxti** < *si/e-sok-ti. Nonetheless, a derivation from this root fits the context well, and has the further advantage that interpreting **sioxti** as a form with 3sg. *-ti allows us to derive the attested form without having to reconstruct a proleptic pronoun *=ī < *ih₂ as part of it.

3.1.2.4 Towards a revised relative chronology

Having considered the above evidence, and the advantages and disadvantages of various earlier interpretations, we must now attempt to reconcile the data available with an internally consistent relative chronology of Gaulish sound change.

3.1.2.4.1 Apocope of primary *-ī

Based on the data surveyed above, it appears that Gaulish underwent a form of *i*-apocope, similar to that generally assumed to have taken place in Insular Celtic. It does not, however, appear to have affected all instances of *-ī# – as McCone (1996b:100–102) formulates Insular Celtic *i*-apocope – as the consonant-stem dative-locative singular forms discussed above clearly demonstrate. Nor does it seem to affect all environments predicted by Schrijver’s (2007) formulation. Although **ατεμαγουτι** (G-122) and **εσκεγγολατι** (G-13) can be explained by recourse to analogy with other consonant-stem nominal paradigms, as Schrijver (2007:367) suggests, this seems an uneconomical way to explain the attested facts. Moreover, no such analogical explanation can explain the retention of final *-ī in the conjunction **eti**, ‘idem’, since it seems quite unlikely that an apocopated **et* might have been restored to the attested **eti** on the basis of its functionally quite distinct compound **etic**, **eddic**, ‘then, and’. In fact, the only firmly identifiable examples of *i*-apocope in Gaulish appear to fall into a single lexical category, namely verbs, e.g. **bissiet** < *sje-ti; **petidsiont** < *sjo-nti.

Furthermore, although the great majority of attested Gaulish verbs probably underwent *i*-apocope, it seems that there exist several cases where primary *-ī is retained. The most promising candidates for such forms are **tiedi** (L-51) < PC *ti-esti < *toj_i h₁es-ti; **íexsetesi** (L-93, 2) < *ēg-se-tesi; **rinoti** (Rezé lead tablet) < *h₂r-ne-h_x-ti;¹⁰¹ and **bueti** (L-101, B1). The forms

¹⁰¹ The form **prino** is found in the same text, in a similar context to **rinoti**, but one word further into its clause. The relevant contexts are: **se rinoti secundo dinariū xxxu** (A3; **seírinoti** A2) and **setigi prino ascanius are boletu xu** (B4). It is possible, therefore, that **prino** reflects PIE *k_ur-ne-h₂-ti > PC *k_uri-nā-ti (→/ > OIr. *crenaid*, ‘buys’), and its position has caused apocope (Pre-Gaulish **prināti* > Early Gaulish **prināt*), with subsequent loss of word-final /t/. This is considered likely by Lambert, and at least possible by Stifter (Lambert and Stifter 2012:153–54, 160). If, as suggested below, the condition for retention of primary *-ī is simply that of being the first stressed element in the clause, the presence of **tigi** at B4, presumably the object of **prino**, is sufficient to displace underlying **prināti*, triggering apocope (*pace* Eska 2014).

jesi (L-98, 1A.9) < **h₁es-(s)i* or **h₁es-ti* and **ṛeḡ<s>etesi** (L-93, 5) < **reg-se-tesi* might also retain primary *-ī, although their interpretation is less clear due to the damage the forms have sustained. Finally, under the interpretation suggested above, **sioxti** might also be considered a 3sg. primary form, retaining *-ī, although it must be acknowledged that this is far from the *communis opinio*. A very notable feature of these forms is that they appear either to be clause initial, or to be preceded only by a pronoun or an apparently uninflected particle: **íexsetesi** and **bueti** seem to be absolutely clause-initial, and **sioxti** certainly is; in **tíedi**, **esti* is preceded only by the pronoun **tī* < **toī*, while **ṛeḡ<s>etesi** and **rinoti** are respectively preceded by **sui**¹⁰² and **se**, ‘this’, an uninflected pronominal. Attention has already been drawn (3.1.2.3.3) to the fact that comparable syntagmata exist in OIr., where a verb inflected in the absolute inflection, normally found only when the verb is in absolute clause-initial position, can also be preceded by a small number of adverbs and conjunctions.

The fact that verbal forms which appear to retain primary *-ī are found in only these two contexts – that is to say, in absolute clause-initial position or when preceded by a pronoun or uninflected element – would seem to imply that the reason for the retention of primary *-ī in these forms is related. Furthermore, most of these forms appear not to be followed by either an enclitic pronoun or an enclitic particle.¹⁰³ This is an important fact, since these are the two explanations for the absolute and conjunct distinction in Insular Celtic favoured respectively by McCone (e.g. 2006 *passim*) on the one hand, and Schrijver and Schumacher (e.g. Schrijver 1994; *KPV*:90–115) on the other. It would seem, therefore, that the retention of primary *-ī in these Gaulish verbal forms cannot be attributed to the same cause as that which underlies the absolute-conjunct distinction in the mediaeval Celtic languages.

Elements of the prosodic explanation put forward by Koch (1987, esp. 163 on Gaulish), however, might have some merits in clarifying the situation in Gaulish.¹⁰⁴ Koch works from the assumption that Proto-Celtic inherited from Proto-Indo-European an accentual system similar to that of Vedic Sanskrit, in which verbs were typically unaccented (Meier-Brügger, Fritz, and Mayrhofer 2003:183). It was only when the verb was fronted that it became accented. Although it is impossible to be certain that verbs were completely unaccented in Gaulish, since the unmarked

¹⁰² Possibly 2pl. *sue*, attested several times elsewhere on the tile, or, with Mees (2011:100), an adverb **sua*, ‘so, thus’.

¹⁰³ The only exception is **íexsetesi**, which is followed by the 2pl. pronoun **sue**, although it is not clear that this is an enclitic.

¹⁰⁴ This is not to say that his argument is to be followed regarding the insular Celtic absolute-conjunct distinction, on the cause of which I am somewhat agnostic. There is no particularly compelling reason to link the developments in Gaulish with those in Irish and Brittonic, despite their superficial resemblance.

word order in Gaulish appears to have been SVO, it appears reasonably likely that verb-initial sentences would have been accompanied by the verb receiving additional stress, and therefore being resistant to reductive sound changes. Consequently, in situations where a verb was fronted, either to absolute sentence-initial position or immediately following a prosodically weak form such as a pronoun or uninflected particle, apocope of primary *-ī might have been avoided, and this morphosyntactic pattern could then have been generalised, as it appears to have been in Irish and Brittonic. Admittedly, this is a rather speculative hypothesis, given the limited data available for verb-initial syntax in Gaulish, but it at least takes account of the data available and provides an explanation for the variation between the more common *i*-apocopated verbs found in Gaulish and the apparently aberrant verbs with final *-ī preserved discussed here.

To conclude, it would seem that *i*-apocope in Gaulish affected only verbs, and only those in an unstressed position. Nouns, which would have carried accent, would have been immune to the effect, which allows us to explain forms such as **ατεμαγούτι** (G-122) by simple retention of final *-ī, rather than by recourse to analogical restoration of the inflectional ending. Similarly, the conjunction **eti** may well have carried stress, given its ability to support enclitic *-kuě and its cognates in other Indo-European languages (cf. Vedic *áti*, Greek *ἔτι* < PIE *(h₁)éti, thus Stifter 2011:171), rendering it unsusceptible to *i*-apocope. Although it is difficult to be certain, it seems likely that of the three developments under discussion here, the apocope of *-ī in unstressed verbs was the first to take place, since there is some possible evidence of apocopated verbal forms already in the Gallo-Greek corpus. It seems certain that apocope of final *-ī pre-dates the loss of *-d#, which, insofar as it can be said to have occurred at all, must have taken place within the written history of Gaulish. On the basis of the preservation of primary *-ī after /m/ in Gaulish **ιμμ** (G-13), it is possible that Schrijver is, however, correct to limit the apocope of *-ī only to the sequences *-sī and *-tī, although the lack of further examples means it is impossible to draw any firm conclusions, particularly since the copula verb is cross-linguistically quite anomalous.¹⁰⁵ A further possibility, mentioned briefly above during the discussion of the forms of the copula which appear to retain final *-ī, is that an additional constraint on the operation of *i*-apocope was the length of the verbal form, with it only affecting forms of three syllables or more.

3.1.2.4.2 Merger of *-ě# and *-ī#

The merger of *ě and *ī in compounds is demonstrably early, since it is already attested in the Gallo-Greek material, the earliest of which dates to the late C3 BCE. The form **ατεμαγούτι** (G-122), where the preverb/preposition *ati* is written with final <ε>, is indicative of the

¹⁰⁵ Cf., for example, its retention of enclitic status in classical Greek and Latin, after other verbs became accent-bearing.

development. This inscription is a particularly useful indicator of how early the merger of *ě and *ĩ is in this context, since its next word is the *o*-stem dative-locative singular **ovvakuoi**, with the ending /-ū̄/, which later develops into /-ū/. We can consequently place this merger of /ě/ and /ĩ/ prior to the simplification of the long final diphthong. However, since the loss of vowel-quality distinctions in first elements of compounds was probably a separate development from the merger of *-ě# and *-ĩ# (3.1.2.2), and we lack Gallo-Greek evidence for the instrumental plural ending *-bi*, which provides our best evidence for this development in the later material, we cannot be sure that *-ě# and *-ĩ# had merged already in early Gaulish. It is possible that the form **κρεϊτε** on a funerary stele (G-213) represents a *t*-stem dative-locative, **krītī* (nom. sg. **krīt̥s* or **krīss*), with *-ě and *-ĩ merged. Its context is too fragmentary to be certain, however, and it is generally treated as an *i*-stem dative-locative, i.e. PIE *-*eĭ* > Quasi-PC **krīteĭ* > Gaulish /krītē/. (*RIG* I:296). Since the word is *hapax legomenon*, it is only possible to acknowledge that both possibilities exist.

Better evidence for the merger of *-ě# and *-ĩ# only appears in the Gallo-Latin material, meaning that strictly speaking it cannot be dated any earlier than C1 BCE. Moreover, since both texts with instrumental plural *-be* (L-6, L-66) are of uncertain date, we can only date the change approximately to C1 CE. As will be seen below, however, it seems that the loss of final *-*d* was a relatively late development in Gaulish, if it occurred at all, so it is likely that the merger of *-ě# and *-ĩ# preceded it. The position of this change in relation to the apocope of final *-*ī* is, however, more difficult to ascertain, particularly given that there are relatively few morphological contexts in which final /ě/ would be expected.

It seems possible that Gaulish /ě/ and /ĩ/ began to merge in compounds after the adoption of writing in the Greek alphabet (C3 BCE), and in absolute word-final position only after the Roman conquest (C1 BCE), since vacillation in spelling is often seen as a sign of speakers' uncertainty as to how to render the result of a recent sound change in an existing writing system. An archetypal example of this phenomenon is the use of in place of standard <u> to represent etymological /ū/ in sub-elite Latin of C1 CE, due to the development /ū/ > /β/, e.g. *per Iobe Optumm Maxumu et nume dibi Augusti* for *per Iouem Optumum Maxumum et numen diui Augusti* (TPSulp. 68, Camodeca 1999:164–67).¹⁰⁶ The variation in the Gaulish texts between <e> and <i> for both etymological /ě/ and /ĩ/ might similarly indicate that this development took place after Gaulish became a written language. It is also possible, however, that the convergence between *ě and *ĩ occurred prior to the adoption of literacy. In this case, the vacillation between <ε/e> and <ι/i>

¹⁰⁶ There are only three instances in this text of the scribe, Gaius Nouius Eunus, not writing for etymological /ū/. These are the verbal form *soluero*, the month-name *Noembrib[u]s* (for *Nouembribus*) and his own *nomen*, *Nouius*.

would simply indicate that the result of this convergence lay between the phonemic values in the Greek and Latin languages that these graphemes had represented in their respective scripts at the time of their adoption by speakers of Gaulish.

Although this latter possibility cannot be dismissed entirely without additional evidence, if the former scenario is accepted, and the mergers of /ě/ and /ĩ/ are placed in the literate period of Gaulish, it probably occurred after the positionally-conditioned apocope of *-ĩ. Further tentative support for this ordering of the developments might be drawn from the variation between **auoti** and **auote**, discussed above (3.1.2.3.4). If the suggestion advanced there (following *KPV:742*) is correct, and **auot/αυουωτ** is taken as an abbreviation similar to Latin *fec.*, it seems possible that **auoti** represents a 3sg. preterite with the inherited perfect ending *-ě, which, after /ě/ and /ĩ/ had merged, could also be written <ĩ>. If this development had taken place prior to the apocope of final *-ĩ, we should expect to find only the form **auot** attested, apocopated from **auoti < *auotě*.

3.1.2.4.3 Loss of *-d#

Based on the evidence in 3.1.2.1, it seems quite unlikely that an early general loss of *-d# can be posited for Gaulish. However, as with the developments discussed above pertaining to *-ě#, the contexts in which *-d# would be expected in Gaulish are quite limited, making it difficult to draw any firm conclusions. As was seen above, the more likely instances cited by Schrijver (2007:357–60) appear to show loss of *-d# only after long vowels, e.g. imperative **-tu** if < *-tōd; **alisiía** if < ablative **-ĩād*, and even these can be explained without recourse to this sound-law. If loss of *-d# is accepted for these forms, the fact that it is triggered by a preceding long vowel means that the change would not have affected 3sg. secondary *-ěd, which Schrijver (2007:368) sees as having developed as follows: **-ěd > *-ě > *-I > *-∅* (after *s and *t).

As already shown, the form **readdas** (L-78) cannot be analysed as containing the pronoun **e(d)*, in the light of the preservation of final **d* in the preverb *-ad-* in the same form. Furthermore, there is considerable evidence that this preverb continued to retain the form *-ad-* rather than being reduced to **-a-*, as Schrijver would predict. This is provided not only by various deverbal nouns, such as **adgarion** (L-100), but also the verbal form **adogarie** (Chartres, A7), indicating that **-d#* was retained in *ad* even when other preverbal elements were present. Rather than postulate an early general loss of **-d#*, therefore, it would seem more prudent to connect its putative loss with the general weakening of final consonants in Gaulish, such as /s/, /t/ and /n/.

It is not entirely certain that all of these developments are part of a single phenomenon, however. In particular, the loss of final /s/ might best be separated from the loss of /n/ and /t/, and indeed also /d/, if it is included in this series of sound-changes. Stifter (2012a:533–35) suggests that final /s/ was preserved until at least the end of the Gallo-Greek period, although he has more recently

(*apud* Viret et al. 2014:53–54) reconsidered this conclusion, and advanced the theory that final /s/ began to be lost in longer forms already in the Gallo-Greek corpus, such as dative plural **ματρεβο ναμασικαβο** (G-203) < PC *-bos, possibly as part of a western Indo-European areal tendency towards the loss of *-s# (Stifter 2010a).¹⁰⁷ If he is correct in this conclusion, it would appear that the loss of final /s/ began relatively early, compared with that of /n/, /t/ and /d/.

The earliest evidence for loss of final consonants other than /s/, in contrast, comes from the first century CE, in the Chartres *defixio*. On the basis of the surrounding archaeological stratigraphy Viret (2014:7, 14) suggests that it dates to the end of the first century CE. Dupraz (2018:84) agrees with this dating, suggesting that it belongs to “die letzten Jahrzehnte des 1. Jahrhunderts nach Chr.”. This text appears to present evidence for the loss of final /t/ in the verbal forms **adogarie** (A7), **adgarie** (A9), and **cantigarie** (B9), all of which have been taken (e.g. by both Lambert and Stifter *apud* Viret et al. 2014) as deriving from 3sg. present **gar-je-ti*, ‘calls, cries’ (cf. *KPV*:331–32). It would seem to make some sense to link the loss of final /t/ with that of final /d/,

¹⁰⁷ Stifter’s reasoning for this reconsideration is not entirely incontrovertible, and his original explanation of Gaulish *-bo* seems preferable. He states (*apud* Viret et al. 2014:53) that his earlier suggestion – that PC dative plural *-bos was remodelled to Gaulish *-bo* on the basis of instrumental plural *-bi* < PIE *-b^{hi} – cannot be sustained because the lack of lenition after OIr. dat. pl. -(a)ib implies PC instr. pl. *-bis. While there is clear evidence for Proto-Celtic dat. pl. *-bos from Lepontic (e.g. **ariunepos**, ‘to the Ariones’ at Prestino) and Celtiberian (Jordán Cólera 2019:1:186–87), the evidence for the instrumental plural is less clear. There are, however, acceptable cognates for PC *-bi, e.g. Greek -φι (Mycenaean *po-pi*, ‘with feet’) and Latin *tibi*. These cannot be explained by loss of *-s#, which is retained in Greek and Latin. Moreover, *-bi is actually attested in Gaulish, e.g. **suioerbe**, ‘with the sisters’ (L-6); **gobedbi**, ‘with the smiths’ (L-13). These would have to be explained by appealing to the same *ad hoc* loss of final *s as Stifter suggests for **ματρεβο ναμασικαβο**, etc. Since Stifter connects the early loss of *-s# in Gaulish with “long word-forms like the dative and instrumental plural” (*apud* Viret et al. 2014:53), it is hard to formulate in Neogrammarian terms what the conditions for this sound change might have been. We might note, however, that final /s/ is quite consistently preserved in other Gallo-Greek nominal forms of similar length to **ναμασικαβο**, e.g. **εσκιν[γ]ομαριος** (G-107), **ανεχτλοιαττης** (G-268). Such forms might admittedly have resisted loss of /s/ by analogy with shorter *o*- and *jo*-stem nominals, but its retention at least casts doubt on *s*-loss as any sort of regular sound change. Furthermore, the Irish situation can be otherwise explained. Stifter effectively supposes that Pre-Irish could not have independently remodelled the ending *-bi → *-bis, i.e. the opposite of the development he had previously suggested for Gaulish (2012a:533–35). This could have happened either by extension from dative plural *-bos, or by contamination with the original *o*-stem instr. pl. ending, or a combination of the two. Even if contamination with the Pre-Irish descendant of PIE thematic *-ōis is not accepted, *-bi → *-bis within Pre-Irish by analogy with *-bos is still a credible explanation of the lack of OIr. lenition. Consequently, the Gaulish dat. pl. *-bo* ← PC *-bos can continue to be taken as remodelled on the analogy of *-bi* < *-b^{hi}, so **ματρεβο ναμασικαβο** need not show early *s*-loss.

given both that they share a point of articulation, and also that there is a cross-linguistic tendency towards word-final neutralisation of voicing distinctions (Iverson and Salmons 2011), which might have made the two phonemes susceptible to the same phonological developments in that position. The form of the preverb *ad*, however, which retains its final consonant, would seem to imply that final /d/ was still preserved at this stage. It is possible that *ad* as a separate preposition had developed into *a by this stage, but if it had done, this must have been sufficiently recent that the development had not yet been extended by analogy to its preverbal counterpart.

There is, then, very little good evidence, if any at all, for the loss of *-d# in Gaulish. This would mean that any loss of final /d/ was almost certainly chronologically posterior to the apocope of final *-ī in unstressed verbs, and probably also to the merger of /ě/ and /ĩ/. The most likely relative chronology of the three sound changes discussed here is consequently: (1) *ī*-apocope in unstressed words; (2) merger of /ě/ and /ĩ/; (3) loss of final consonants, possibly including /d/. This revised chronology would also falsify Schrijver's etymology (2007:368) of **lilous** < *li-leug-s-ed, which relies on assuming the developments to follow the order *li-leug-s-ed > *lilouχse (loss of *-d#) > *lilouχsi (*-ě#, *-ī# > *-i) > **lilous** (apocope, simplification of final cluster).

3.1.2.5 Syncope

Evidence for syncope as a regular sound change in Gaulish is scarce, tending to be restricted to compositional vowels in nominal compounds, e.g. ethnonyms and toponyms such as *Aruerni*, *Armorica* (DLG:52, 228). Lambert (RIG II.2:120, 148), however, calls upon syncope to explain two forms which he analyses as subjunctives: **lustas** (L-33) and **redresta** (L-49). It is therefore worthwhile examining the evidence for this sound change in Gaulish, in order to establish whether such forms are truly admissible as evidence of the subjunctive. Lambert reconstructs the immediate precursors of **lustas** and **redresta** as *lug-s(e)t-as (explicitly, RIG II.2:120) and *re-dreg-s(e)t-a(s) (implicitly, II.2:148)¹⁰⁸. In both cases, the final element *-a(s) is of uncertain analysis: in RIG, Lambert merely suggests that it may be an enclitic pronoun or a particle, but he has also discussed its interpretation in greater detail (2001b). He briefly notes there (2001b:459) that his particle *as may be identical with Cowgill's *es (Cowgill 1975a), but otherwise provides no theory as to its etymology. Since there is no further evidence of a Gaulish sound change *eC# > *aC#, this identification seems unlikely, as does the existence of a particle *as at all, given the considerable problems in attempting to explain both its syntactic behaviour and its phonological effects on the forms to which it is, according to Lambert, enclitic. Since it appears to be Lambert's view that it is the particle *as that causes syncope – he only calls upon the process to explain these two forms – it is worth examining whether the particle *as is truly worth reconstructing.

¹⁰⁸ “On pourrait tenter de l’analyser comme un subjonctif en -s- sur le modèle de La Graufesenque *lustas*.”

3.1.2.5.1 Problems with Gaulish *as

Lambert's particle *as faces several significant problems, and it has unsurprisingly found little, if any, acceptance.¹⁰⁹ A particular syntactic difficulty for Lambert in proposing the particle is that he struggles to provide a consistent account of where it is placed in the Gaulish verbal complex. For the form **readdas** (L-78) he reconstructs a preform *re-as-das(t), with the particle directly following the first preverb. For other compound verbs, however, he identifies the particle after the inflected verb, rather than the first preverb. The relevant forms are **rebellias** (L-52) < 2sg. imperative *ro-belli=as, 'reject, destroy?'; **ate solas** (L-53) < 2sg. imperative(?) *ati-sol=as, 'retake' or, perhaps even more questionably, *ā*-subjunctive *ati-solās; and **redresta** (L-49) itself. Lambert attempts to explain the syntactic variation between L-78 and L-49 as due to the latter inscription being "certainment plus tardif" (2001b:466), but this is belied by the archaeological dating of the inscriptions. Lambert himself (*RIG* II.2:202) provides a dating of L-78 to the 40s CE, which is more-or-less contemporaneous with the date given for L-49 by Marichal (p.c. in Pauc 1972:202), who suggests that the graffito "est très certainement contemporain de ceux de La Graufesenque". Pauc (loc. cit.) takes this as meaning 40-60 CE,¹¹⁰ which would make L-78 and L-49 almost precisely contemporary. It is not entirely clear, however, that Marichal is referring to any period more specific than the range 40-100 CE to which he dates the graffiti from La Graufesenque (Marichal 1988:10). Nonetheless, the two graffiti are clearly quite similar in their dating, which invalidates Lambert's argument that difference of syntax in L-49 is due to its later date.

Even more problematic to Lambert's reconstruction of the syntax of his particle *as are the graffiti **rebellias** and **ate solas**, which, if they do contain this particle, clearly retain its final *s, the loss of which Lambert relies on to diagnose the later date, and consequent syntactic development, of L-49.¹¹¹ There is, however, little reason to assume that **rebellias** is a verb of any sort, since its ending appears to agree with the preceding form **billicotas**, suggesting that the two words might form a noun phrase, in either the accusative plural or the genitive singular. The reading of **ate solas** is quite uncertain: the latter word can also be read as either **solos** or **solds** (*RIG* II.2:160), meaning that it is quite feeble evidence for the existence of a particle *as. It must also be noted that, if **rebellias** and **ate solas** are to be taken as imperatives, as Lambert suggests, his already phonologically weak suggestion that his particle *as might be equivalent to Cowgill's *es for

¹⁰⁹ Lambert's reconstruction appears only to be followed by Delamarre (*DLG*:202), in his entry on the forms **lilous** and **lustas**, and even here he seems only to be quoting Lambert.

¹¹⁰ "Il remonte donc, sans doute, à la période de splendeur (40-60 après J.C.), ..."

¹¹¹ "... Cajarc, avec sa chute de -s- final, est certainement plus tardif" (Lambert 2001b:466). Lambert does not acknowledge that Banassac, the site where these two graffiti were found, is a later site than Cajarc.

Insular Celtic is weakened further. Although the particle **es* would not leave a direct trace in the form of the imperative in Irish, as both 2sg. **bere* and **bere=es* would develop into the attested *beir*, ‘carry!’, there is evidence that imperative clauses in Irish did not contain the particle **es*. This can be seen in cases where the imperative of the copula causes lenition of the initial consonant of the following word, e.g. *act bad chách darési áréli*, ‘but let each be after the other’ (Wb.13a5), with 3sg. impv. *bad* < **b̥e-tou* (cf. Stüber 2017:1212 for OIr. 3sg. impv. from **-tou*).¹¹² If the main-clause particle **es* had been present, lenition of *chách* would have been prevented. Similarly, the absence of **es* in imperative clauses is implied by the lenition of the root-initial consonant attested in imperatives of compound verbs containing a preverb with an etymological final vowel, e.g. *na imchomarcad ní*, ‘let her not ask anything’ (Wb.28b12; OIr. *im-* < PC **ambi*); *fochridigthe*, ‘gird!’ (Ml.27c5; OIr. *fo-* < PC **uφo*). By way of contrast, due to the presence of **es* the indicative and subjunctive forms of such verbs show no lenition of the root-initial consonant, e.g. *imtimchella* gl. *cingit*, ‘it surrounds’ (Ml.40c14); *focridigedar .i. dauid*, ‘he might gird, i.e. David’ (Ml35c32). Consequently, from a comparative perspective we should not expect to find a particle **as* in Gaulish clauses with an imperative verb, if the proposed connection with Insular Celtic **es* is to be maintained. Clearly, then, the identification of a particle **as* for Gaulish is compromised both in terms of its syntactic behaviour within Gaulish and on the basis of external comparison with its putative cognate form in OIr.

It is also notable that, if Lambert is correct in identifying a particle **as* for Gaulish, this particle appears to interact with its supporting word quite differently from any of the other enclitic particles he identifies (2001b:459–62). Not a single other enclitic particle described by Lambert causes syncope in its supporting verbal form. Rather, it seems more likely that the presence of an enclitic particle leads to the preservation of material that might otherwise have been lost, for example by the apocope of primary **-ī* described above, e.g. **buetid** (L-100, 8-9) < **bueti-dē*, possibly **dugíontiío** (L-12) and **toncsiontío** (L-100, 8) < **onti-īo*. Furthermore, this ability to preserve the final syllable of its supporting word appears to be a feature attributed by Lambert to his particle **as*, as shown by his interpretation (2001b:467–69) of **sagitiontias** (L-98, 2B.10) and **tigontias** (L-98, 1A.4) as 3pl. **sagitionti* and **tigonti* with enclitic **as*. It would seem counterintuitive, at the very least, for a particle which ostensibly causes syncope of the medial syllable **-set-* > **-st-* in the forms **lustas** and **redresta** to lead to the preservation of final **-ī* in the forms **sagitiontias** and **tigontias**. Furthermore, the effect of **as* on the preceding word appears to vary between the cases described by Lambert (2001b:462–70). For example, if Lambert is followed in analysing **lubitias** (L-30) as 2pl. imperative **lubite=as*, it is quite difficult to see why

¹¹² Cf. also Ml.46b29: .i. *bachuimnech dilguda duinni*, ‘i.e., be mindful of forgiveness to us...’, with lenition of *cuimnech*, ‘mindful’ after 2sg. imperative *ba* < **b̥e*.

the medial syllable here should not also have been syncopated as in **lustas** and **redresta**, yielding ^x*lubtías*. It might also be noted that, if it is the presence of a particle **as* which causes syncope in **lustas** and **redresta**, this would seem at least to imply that the particle was accented, as this would account for the reduction of the immediately preceding syllable. This would seem to be at odds with the description of the particle as an enclitic, since enclitics are, by definition, unaccented. This serves to render Lambert's entire theory extremely questionable.

3.1.2.5.2 Conclusions

Given the problems described above with the identification of a particle **as* in Gaulish, it seems an unnecessary addition to the repertoire of enclitic elements attested in the language. Furthermore, since the only two instances of syncope suggested for Gaulish have been connected with this putative particle, the suggestion of such a development in the language appears to be vitiated alongside that of the particle itself. In fact, in surveying the *index verborum* of *RIG* II.2, it is notable that Gaulish exhibits very few consonant clusters at all, once the morphologically predictable sequences /χs/, /χt/, /nt/ and /st/ are excluded. Comparison of these facts with those of heavily syncopated languages, such as Etruscan or Umbrian (cf. Meiser 2017:748), or indeed OIr., which exhibit a wide variety of largely unpredictable consonant clusters, leads to the conclusion on a typological basis that syncope should not be postulated as a sound change which affected Gaulish. It might be objected to this that a number of modern French toponyms, such as *Condes* and *Bourges* represent syncopations of earlier Gaulish ethnonyms and toponyms, e.g. *Condate*, *Biturīges* (Koch 1987:146). The syncope of unstressed vowels appears, however, to have been a West Romance areal feature (Fagyal, Kibbee, and Jenkins 2006:222), rather than a reflection of the fact that these forms were already syncopated in Gaulish, as is shown also by the fact that the same Gaulish form could have more than one reflex in French, depending on where speakers placed stress, e.g. *Condes* < **Cóndate*, *Condé* < **Condáte*. It would seem sensible, therefore, to attempt to explain the forms **lustas** and **redresta** here without recourse to Lambert's ad hoc syncopating particle **as*, and more likely explanations will be considered in the discussion of the individual forms.

3.1.2.6 **e* > /i/ /s_t(#)¹¹³

As with syncope, this is a sound change for which very few examples can be adduced, but for which there also very few certain counterexamples. The two pieces of data used to support such

¹¹³ A more extreme variation of this sound law, favoured by Eska (e.g. 1990:n. 38; 2003:6), that **-et#* > *-it* in all environments, is readily falsified by forms such as **lunget** (L-98, 1A.6), 'elle relâche, elle place' (*DLG*:211), and **ratet** (1B.10), 'il promet, garanatit' (2003:254). In the latter word in particular, the syllable

a sound-law appear in the list of possible subjunctive forms: **legasit** (*RIG* L-79) and **sesit** (L-100, 8). It should be noted that the two forms are chronologically quite distant from each-other: L-100, the Chamalières tablet, is dated to the first century CE (*RIG* II.2:269), whereas L-79, the Séraucourt vase, is dated to the third century, as discussed above (3.1.2.1.1). This complicates matters somewhat, since it means that even if the change **-set > *-sit* were disproved for the Chamalières example, this does not preclude the development having taken place by the time of the Séraucourt inscription.

Both Isaac (2001:352) and McCone (2006:228) appear to assume a change **ĕ > /i/* in their interpretations of the form **legasit** (L-79), respectively as a 3sg. subjunctive **leg^h-ǎ-se-t*, an analogically created **-ǎse-* subjunctive extracted from laryngeal-final roots as in Irish and Brittonic, or as a “secondarily thematised” *s*-aorist, **legaset* ← **legast*. Both of these theories face quite significant morphological problems, however. Regarding Isaac’s theory, there appears to be no basis for postulating a subjunctive morpheme **-ǎse-* in Gaulish, since this form would be its only possible reflex. It does not seem likely that, even at a relatively late date, speakers of Gaulish felt the need to replace the subjunctive in **-se-* for stop-final roots, as is shown by the form **íexsetesi** (L-93, 2). Consequently, it would seem likely that we should expect the subjunctive of the root **leg^h-* in Gaulish to appear as **lexset* < **leg-se-ti*, by **K/Ps > /χs/* and apocope of primary **-ĭ* in unstressed verbs (3.1.2.4.1 above). Similarly, thematisation of an *s*-aorist **legast* → **legaset* > **legasit**, as suggested by McCone, seems unlikely to have reduced morphological ambiguity, given that the ending **-set* would be the expected outcome of the Proto-Celtic 3sg. *s*-subjunctive ending **-se-ti*. There is, however, perhaps more motivation for replacing an *s*-aorist **legast* with **legaset* than there is for replacing a subjunctive form **lexset* with **legǎset*, given that it is likely that 2sg. *s*-aorist **legas-s* > **legas* and 3sg. **legas-t* > **legat^s* > **legas*¹¹⁴ would have fallen together, providing motivation for morphological recharacterisation. McCone’s theory is consequently

/et/ is clearly word-final, since it is followed immediately by the personal name **seuera**, which appears several times on the inscription. Since L-98 and L-100, where **sesit** is found, are roughly contemporaneous, this would seem to exclude the possibility of a general development **-et# > -it* at that stage in the history of Gaulish, unless Larzac and Chamalières are supposed to have spoken two different dialects of Gaulish, one preserving **-et#*, the other raising it to *-it*. Although this is not impossible, since the two sites are approximately 250km apart, given the absence of other diagnostic dialectal features this is an unappealing hypothesis.

¹¹⁴ In principle, other developments of the sequence **-Vst#* are conceivable, e.g. **-Vst > *-Vss > *-Vs*. The reconstruction given here is in the basis of the reflex of **(-)sT-* and **(-)Ts-* clusters as */t^s/*, written <θ> or <đ>, e.g. *Đirona*, goddess name, < **h₂ster-*; *adđedilli* < **ad-sedillo-*, but it is uncertain as to whether the word-final treatment was the same as that in initial and medial positions.

preferable to that of Isaac, although both still face the difficulty of finding parallels for the change **-set > -sit*.

Beyond the forms **legasit** and **sesit**, evidence for the change **-set > *-sit* is, at best, equivocal. Possibly in favour of such a change is the form **gabxsi[**tu**]** (L-101), to be discussed further below, if it is taken as deriving from a subjunctive in **-se-*. There are, however, considerable problems with its interpretation. As can be seen from the transcription, the ending of the word is broken, and the break falls in such a way that it is unclear as to whether the last preserved stroke is an **<i>** or the first stroke of a cursive **<e>**, found elsewhere on the text. Since the rest of the ending is absent, it is not even certain that its form should be reconstructed as **[tu]**. From the traces visible on the photo (*RIG* II.2:283), if they are not simply damage to the support, a reading **gabxse[**t**]** might be just as valid as **gabxsi[**tu**]**, which could then be interpreted as a simple 3sg. subjunctive in **-se-*.¹¹⁵ Explicit counterevidence to the change **-set- > *-sit-* might be found, however, in the inscribed ring *RIG* L-127, which reads **ADIA | NTVN | NENI | EXVE | RTIN | INAP | PISET | V <<<<**. This inscription has been segmented in various ways by different scholars, but several readings, including those of Meid (1994b:52) as *Adiantunne ni exuertinin appisetu*, “Adiantunnos, [this ring] shall not see a disloyal one”, and Lambert (2003:128–29; *RIG* II.2:342) as *Adiantunneni Exuertini Nappisetu*, “Nappisetu (a donné ceci) à Adiantunnena (fille) de Exvertinios” both agree in placing the sequence **<SET>** in the penultimate syllable of a polysyllabic word. If Meid’s reading is followed, and the form is interpreted as a 3sg. imperative *appisetu < *ad-kʷis-e-tu* (cf. OIr. *ad-cí*, ‘see’), with the ending **-tu* suggested by Stüber (2017:1212), discussed above (3.1.2.1.2), this would be a clear instance of **-sēt-* being retained in a non-initial syllable. It is not entirely clear, however, that the preverb **ad-* would have assimilated to the following labial, an implicit assumption of Meid’s reading, given that it appears to be preserved without assimilation in forms from the verbal compound **ad-gar-*, discussed above. Lambert’s reading is more problematic,

¹¹⁵ In the Latin cursive script in which the Lezoux lamella is written, the sequences **<et>** and **<itu>** would only differ by one vertical stroke, namely the final stroke of the letter **<u>**, which would at any rate be lost to the break in the text. Since the horizontal stroke of the letter **<t>** is also lost to the break, it cannot be determined whether it would have been placed over the second vertical, yielding **<it>** (general schematisation: **Ɱ**; actual letter forms from Lezoux: **Ɱ**) or the third, yielding **<et>** (likewise: **Ɱ**, **Ɱ**). Consequently, although it is conjectural to suggest that the form may have been **gabxse[**t**]**, it is both a possible reconstruction based on the preserved elements of the text, and consistent with the known morphology of Gaulish, i.e. that the suffix **-se-* seems only to be found with endings derived from the Indo-European primary set, e.g. **íexsetesi** (L-93, 2), possibly *scrisu-mi-o* (*De medicamentis* XV.106) and **(su)rexetesi** (L-93, 5).

however, since he is unable to provide a convincing etymology of the form (*RIG* 2.II:342), meaning that it is impossible to say for certain whether his *Nappisetu* contains /ě/ < *ě or /ē/ < *ēj̄.

In fact, a morphological solution might be preferable to postulating *-set(#) > *-sit to account for the forms **legasit** and **sesit**. As is well-known, a preterite in *-it-* is attested in both Cisalpine and Transalpine Gaulish, e.g. Gallo-Greek **καρνιτου**, ‘erected (a tomb)’ (G-151)¹¹⁶; Lepontic **karite**, **kalite**, ‘set up’ (Morandi 2004 no. 106). Eska and Evans (2009:37) suggest that the suffix *-it-* has been generalised from the imperfect of verbs in *-ĵe-, i.e. *-ĵe-t > *-it,¹¹⁷ to which the 3sg. perfect ending *-e has been appended. Conventionally, the variation between the endings /-ū/ < **ov**, **u** > and /-e/ < **e** > has been explained as different reflexes this perfect ending, with /-e/ being the regular reflex of PIE *-e for consonant-final roots, and /-ū/ being generalised from roots with a final *H, i.e. < *-oH-e, e.g. Lepontic **tetu**, /dedū/ ‘gave, dedicated’ (Morandi 2004 no. 180) < PC *de-dū < *de-dō (contraction of *ō-ě > *ō) < *de-dō-ě < PIE *de-doh₃-e, so recently Zair (2014:380). Eska and Evans (2009:37), however, suggest rather unsatisfactorily that the final *-u* is simply a “perfectivizing third-person singular exponent”, without providing any further discussion of the possible etymological sources of this exponent. Regardless of its precise etymology, the 3sg. preterite in *-ite/-itu* appears to have disappeared by the time of the Gaulish material attested in Latin script. It is consequently possible that the suffix had undergone further reanalysis, being segmented as 3sg. *-it, with the endings *-e/-u perhaps being reanalysed as some sort of enclitic. The ending *-it could then have been used to disambiguate between the 2sg. and 3sg. of the *s*-aorist, leading to the forms **legasit** ← *legas < *legast, and **sesit** ← *ses < *se(d)st.

¹¹⁶ Further examples in the Gallo-Greek corpus are the (semantically less clear) **κλιρνιτου** (G-110) and **κοβριτου** (G-257).

¹¹⁷ This suggestion is made somewhat more difficult to sustain due to the apparent preservation of the sequence *-ĵe-, rather than its reduction to *-i-, in Chartres **adogarie** (A7) < *ad-ĵo-gar-ĵe-ti, **adgarie** (A9) < *ad-gar-ĵe-ti. This difficulty might, however, be circumvented by proposing that the reduction *-ĵe- > *-i- only took place in final syllables, which could be supported by the customary derivation of Gaulish 2sg. impv. **gabi**, ‘take’ (L-119) < PC *gab-ĵe (cf. OIr. *gaibid*, *-gaib*, ‘take’ < *gab-ĵe-ti). The imperfect *ad-gar-ĵe-d, where *d# is perhaps phonetically [t] due to loss of voicing contrast in word-final position, would consequently have been affected, yielding Proto-Gaulish *ad-gar-i-d. More broadly, this implies that *-ĵe(C)# > *-i(C)# took place prior to the apocope of primary *-ĵ in verbal forms, described above, in order to account for **adgarie**, etc, rather than *adgari. If Eska and Evans are correct in deriving the suffix from the imperfect 3sg. *-id < *-ĵe-d, its appearance in Transalpine Gaulish as well as Cisalpine Gaulish/Lepontic would appear further to falsify Schrijver’s suggestion of an early loss of *-d#, discussed at length above, since its loss would have left no ending *-id [-it] from which the suffix might have been generalised.

Alternatively, the imperfect ending **-it* < **-iet#* may have been added directly to the ambiguous *s*-aorist forms, prior to the intervening stage of its recharacterisation with 3sg. perfect **-e/-u*.

Consequently, although it is difficult to rule out the possibility of a change **-sēt(#)* > **-sīt* for Gaulish, alternative explanations are also available. There is some possible counterevidence to such a development in the form of **appisetu** (L-127), although this form is itself not lacking in interpretive difficulties, and perhaps in L-101, if the reading **gābxse[t]** is adopted for the final form of the second line. It is to be conceded, however, that this counterevidence is not exceptionally strong. Nonetheless, as has been said, Isaac's explanation of **legasit** as reflecting **legasēt* faces the difficulty that there are no further examples of a subjunctive in **-āse-* in Gaulish to support the reconstruction of such a form for any stage of Celtic earlier than Proto-Insular-Celtic. Although this could simply be an accident of attestation, Isaac's suggestion remains weak unless the subjunctive of an Indo-European *seṭ* root is discovered in Gaulish, where the expected form of the suffix would be precisely the **-āse-* suggested by Isaac. Similarly, McCone's suggestion of secondary thematisation **legast* → **legasēt* > **legasit** encounters difficulties insofar as it would have caused homomorphy between the aorist and subjunctive forms of the verb, at least if it had taken place after apocope of primary **-i*.¹¹⁸ Consequently, the most attractive option remaining appears to be to explain **legasit** and **sesit** as 3sg. *s*-aorists, recharacterised either by the addition of a reanalysed 3sg. preterite **-it* ← *-ite/-itu*, or, at an earlier stage, by addition of the 3sg. imperfect ending **-it* to the 3sg. *s*-aorist, i.e. **-s-t* > **-tʰ* > **-s* → **-sit*.

3.2 Celtiberian

3.2.1 Orthography

A brief note about the Celtiberian script and transcription of forms is merited here. Unlike the other Celtic languages discussed here, which were written in either the Latin or Greek alphabet, most of our Celtiberian material was written in a semi-syllabic script, which it acquired from the neighbouring, non-Indo-European, Iberian language. Although all vowels, resonants and sibilants can be written independently, stops can only be written with syllabic graphemes of the shape <TV> (where *T* stands for any stop, and *V* for any vowel). Moreover, the script does not systematically distinguish voiced and unvoiced stops, which introduces ambiguity into the interpretation of forms: a syllable written <ka>, for example, could express /ka/ or /ga/, or even simple /k/ or /g/, as seems likely in the coin legend **karaluz** (A.65), 'from Grallom', a toponym also attested in a Roman inscription (Curchin 2008:21). In a relatively small zone approximately in the centre of the Celtiberian speech area (Jordán Cólera 2019:1:84), it appears that a "dual

¹¹⁸ Of course, if the subjunctive is reconstructed as taking secondary endings, the motivation for thematising the aorist stem is made even weaker.

system” begins to be applied to remedy this ambiguity, although this system does not extend to all <TV> syllabograms (Jordán Cólera 2005). Outside of this area, only syllables with a labial stop can be reasonably securely interpreted: due to the loss of Proto-Indo-European *p in Proto-Celtic, and the collapse of the distinction between Proto-Indo-European plain voiced stops and aspirated voiced stops, the only interpretation available for these syllabograms in inherited lexemes is as containing the consonant /b/. It is possible, however, that the <bV> series is occasionally used to represent [p], or perhaps [f], in non-Celtic words, e.g. **bolora** (K.1.3, IV-3), if for Latin *Flōrā* (*MLH* V.1:84). In order to avoid interpretive bias in the discussion of Celtiberian forms, Celtiberian syllabograms will be transcribed in what follows as <kV>, <tV> and <bV>, e.g. **kabizeti** (K.1.1, A3), unless there is evidence that the dual system is in use in the inscription in question.

3.2.2 Celtiberian <z> and Proto-Celtic intervocalic *s

3.2.2.1 <z> from Proto-Celtic *d

An additional difficulty in identifying subjunctive forms in Celtiberian is presented by the fact that opinion is still divided over the phonetic interpretation of the grapheme widely transcribed as <z>, although also as <d̄> or <ð̄> with increasing frequency in modern scholarship, or, more archaically, as <s>. The most widely accepted approach to the interpretation of this grapheme, put forward by Villar (1995:chap. 1), and followed by *MLH* IV and *KPV*, among others, is that it represents the result of the lenition of Proto-Celtic *d between vowels and in word-final position. In favour of such an interpretation is the fact that the grapheme <z> is found in forms which appear to correspond with the ablative singular in other Indo-European languages, e.g. OLat *gnaivod*, ‘from Gnaeus’ (*CIL* VI 1285), to which the ending attested in the aforementioned Celtiberian coin legend **karaluz** (A.65), ‘from Grallom’, appears to correspond morphologically (cf. Villar 1995:19–29 for further examples of ablative singulars in final <z>). Similarly, the grapheme <z> is found in forms which appear to be 3sg. imperatives, where the PIE ending *-tōd would be expected to yield Celtiberian -tūð, e.g. **tatuz**, seemingly from *d^hh₁-tōd or *dh₃-tōd, cf. OLat (*s*)*tatod* (Duenos inscription), Gk ἔστω. Evidence of the lenition of *d intervocalically, as well as word-finally, is found in forms such as **zizonti** and **zizeti**, to be discussed further below, which appear to be reduplicated forms of either *d^heh₁-, ‘put’, or *deh₃-, ‘give’ (cf. τίθημι, δίδωμι). It is not, however, agreed upon as to what the phonetic reality of the phoneme underlying <z> was. According to Villar (1995:33), the result of the lenition of Proto-Celtic *d was Celtiberian /z/, and consequently fell together with the /z/ that he believes to be the regular result in Celtiberian of intervocalic Proto-Celtic *s. The view followed by *MLH* and *KPV*, along with many other scholars currently working in the field of Celtiberian, is that the result of the lenition of *d was a voiced dental fricative [ð]. As will be seen immediately below, it seems quite unlikely that any instances

of Celtiberian <z> can be attributed to the lenition of Proto-Celtic *s with any certainty, and the identification of [ð] as the phone underlying <z> consequently appears rather more likely.

3.2.2.2 Possible instances of <z> from Proto-Celtic *s?

The second part of Villar's theory (1995:chaps 1–2) holds that <z> can also represent the lenition of Proto-Celtic *s between vowels. In more recent years, versions of this aspect of the theory have been particularly favoured by Bernardo Stempel (e.g. 2007) and Prósper (2014:116), although opposition has been voiced by McCone (2001:485–86), as well as by Untermann and Wodtko (*MLH* IV and V.1, respectively). Under this interpretation, a small number of forms with an element spelled <ze> before their personal ending could consequently be read as subjunctives in *-se-, with lenition of *s between vowels, so it is important for the sake of this study to determine, as far as is possible, whether a sound-change *VsV > Celtiberian <VzV> took place. The pertinent verbal forms are **kabizeti** (K.1.1, A3) and **auzeti** (K.1.1, A10). A number of the examples cited by Villar in support of a sound-change *VsV > /Vz(V)/ provide cause for doubt. The examples presented in support of the hypothesis that a change *VsV# > /Vz/ in Celtiberian should first be dismissed on a number of grounds. The evidence cited by Villar concerning possible instances of <z> from intervocalic *s in word-internal environments will then be addressed.

The forms in which Villar (1995:29–30) sees the change *VsV# > /Vz/ as taking place are **soz** (K.1.1, A2), **oskuez** (K.1.1, A3, 4) and **ruzimuz** (K.1.1, A11). The first two he derives from masculine singular pronouns, which he claims originally ended in *-sV, *sosi and *osk^uesi/o, respectively, and the last he claims to be a 1pl. present tense verbal form. In favour of reconstructing *sosi as the preform of **soz**, Villar particularly highlights a perceived Gaulish parallel, saying “propuse ver en esta forma el nominativo de singular (*sosi) del mismo pronombre que aparece en galo en acusativo de singular *sosin*” (Villar 1995:29). Although the reconstruction as *sosi might appear to be reinforced by the presence in Gaulish of a form **sooiv/sosin** (*RIG* I, G-153; II, L-13), drawing a direct equivalence between the forms is quite problematic. As was mentioned during the discussion of the Gaulish form **sosio** (3.1.2.1.1), it is quite likely that both nouns referred to by Gaulish **sosin/sooiv** are neuter. This makes a direct comparison with Celtiberian **soz**, putatively derived from a Proto-Celtic masc. nom. sg. *sosi difficult to maintain, since there is no positive evidence that PIE masc. sg. *so had been replaced by *sosi already within Proto-Celtic. Indeed, it seems more likely that **sosin/sooiv** represents a replacement within Gaulish of Proto-Celtic *sod ← PIE *tod, presumably on the basis of a stem *sos-, perhaps seen also in **sosio** (*RIG* II, L-79), quite possibly generalised from a masculine nominative singular *sos ← *so. It should also be noted that other Celtiberian demonstrative pronouns attested seem to be more-or-less directly derived from their Proto-Indo-European preforms, with minimal remodelling, e.g. masc. dat. sg. **somui** (K.1.1, A7) < *sōmūj ← *tosmōj,

masc./neut. loc. sg. **somei** (K.1.1, A8) < **sosmei* ← **tosmei*. This would seem to suggest that it is unlikely that the masculine singular nominative alone, i.e. Proto-Celtic **so*, would have been recharacterised with an otherwise unattested element *-*si*. If **so* were to have been recharacterised in Celtiberian, the attestation of the nominative singular masculine of the relative pronoun **ios** (K.1.1, A10) should lead one to expect it to have been remodelled as ***sos**, and not **soz** < **sosi*. This would seem even more likely to be the case when one bears in mind that Celtiberian is known to have formed correlative structures of the type **jo... so...*, as in **iomui... somui...** (K.1.1, A7-8), where there would have been scope for extension of the ending *-*s* to the demonstrative pronoun. Clearly, then, the form **soz** is inadmissible as evidence of intervocalic voicing of **s* in Celtiberian.

Unlike the comparatively well understood **soz**, the form **oskuez** is both etymologically and pragmatically obscure. It appears twice, both being on K.1.1, and in both occasions follows the form **uta**, which is similarly obscure in its interpretation, but has often been considered to be a conjunction, but could also be interpreted as a preposition governing the ablative case (c.f. *MLH* V.1:s.v. **uta**). A similar form, **iskuez**, is found again following **uta** in an inscription on lead, not included in *MLH*, but edited and published by Lorrio and Velaza (2005), and studied further in Prósper (2007). Since the graphemes transcribed as <**o**> and <**i**> are quite distinct in the script, it is unlikely that the spelling **iskuez** is a scribal error for **oskuez**. The principal reason given by Villar (1995:30) for interpreting **oskuez** as a masculine pronoun, rather than neuter, is that it is more normal for neuter pronouns in Indo-European languages to end in *-*od* or *-*id* than in *-*ed*, e.g. Latin *quod*, Sanskrit *kad* < **k^uod*, Latin *quid*, Greek τί < **k^uid*. He further contests (loc. cit.) that postulating a sound-law *-*id* > *-*ed* (> **-ez**) would be an ad hoc explanation, and is possibly falsified by the presence in Celtiberian of many *i*-stem ablatives in **-iz**, although he concedes that it is likely that we are here dealing with /ī/ rather than /i/.

Villar provides two alternative reconstructions for **oskuez**, namely **osk^uesi* and **osk^ueso*. As will be seen in the treatment of **ruzimuz**, below, the reconstruction of **osk^uesi* is problematic on account of evidence for the preservation of Proto-Celtic *-*ī* in Celtiberian, which suggests strongly that, if Villar were correct in assuming the sound-change **VsV* > /*VzV*/, the attested form of this pronoun ought to be ***oskuezi**. The reconstruction as **osk^ueso* is also suspect, given that there is good evidence for the preservation of *-*ō*, as in the 3pl. middle secondary ending **-anto**, in **auzanto** (K.1.3, H), and also the generalisation of /-*ō*/ as the genitive singular ending of *o*-stem nouns, e.g. **atiko** (K.0.7) 'of Atikos'. It is also unclear precisely what Villar would suggest that the Proto-Celtic, let alone Proto-Indo-European, origin of the pronoun **oskuez** might be, since he provides no cognates for his reconstruction. If he has in mind forms such as Greek ὄστις, which are superficially similar, then he is surely being misled by a chance resemblance. The Greek form

is clearly a compound of the relative pronoun ὅς < *(h_x)jō- and the indefinite pronoun τις < *k^uis. Since the relative pronoun *(h_x)jō- is attested in Celtiberian **ios** and **iomui**, it seems quite certain that a putative Celtiberian cognate of ὅστις would have the form ***ioskuis**, with retention of initial *j-. Given the lack of comparanda or explanation provided by Villar, one cannot be certain that this is the etymology he had in mind for the form, but clearly a derivation of **oskuez** < *(h_x)jōs-k^uis cannot be made to work. Prósper's derivation of **iskuez** (2007:33–34) from *is-k^uid (cf. Latin *is*, Gothic *is*) has rather more merit than the alternative *k^uis-k^uid that she also presents (loc. cit.).¹¹⁹ In order to explain **iskuez** and **oskuez** as deriving from *k^uis/k^uos-k^uid, one must assume a dissimilatory sound change *k^u...k^u > *∅...k^u. There does not appear to be much by the way of positive evidence for such a sound change, and it is possibly contradicted by forms such as **QUEQUI** (K.3.12), if the reading of the first and fourth letters as <Q> is correct, and **kueketikui** (K.0.14, A1), if the inscription on which it is found is genuine. In fact, it may be unnecessary to suppose that the dissimilation *k^u...k^u > *∅...k^u took place. If **iskuez** and **oskuez** are to be interpreted as pronominal forms, **oskuez** could simply be a remodelling of **iskuez** on the model of the vocalism of other pronouns such as **ios** (K.1.1, A10), or the *so(s) implied by dat. sg. **somui** (K.1.1, A7), loc. sg. **somei** (K.1.1, A8). Ultimately, the etymology and meaning of these forms remain obscure, but it is clear neither of the reconstructions given by Villar bear scrutiny well. It is notable that even Prósper, whose own view of Celtiberian historical phonology includes the change *VsV > /VzV/, suggests a reconstruction with final *-d for these forms.

Villar claims that the form **ruzimuz** is a 1pl. present indicative, with Clb. **-muz** < PC *-mosi. This seems phonologically highly unlikely, since as far as can be established, there are no instances of PC *ǵ > Clb <u>, and a significant number of instances of Celtiberian <u> can be attributed to Proto-Celtic *ū < PIE *ǔ or Proto-Celtic *ū < PIE *ō, e.g. toponym **usama** (K.1.3, III-47) < *u_xsamā 'the highest (place)' < PIE *up-s-ṛmmo-, 'highest' (cf. MW *uchaf*, 'highest' < *ou_xs-amo- ← *u_xs-amo-); **tatuz** < *datūd < *dh₃-tōd/d^hh₁-tōd. We would therefore be forced to assume the presence in Proto-Celtic of an otherwise unattested 1pl. present allomorph, *-musi or *-mūsi, in order to account for the existence of Celtiberian **-muz**, which, although not impossible, would be a highly inefficient reconstruction. Villar's own explanation of the spelling <-muz> where <-moz> would be expected is that it is "alteración del timbre /o/ en /u/ acaso por el contacto de la labial /m/" (1995:57). This would, however, appear to be falsified by forms such as **sekisamos** (A.69), 'strongest', where /o/ has clearly not undergone the same 'alteration'. Villar's reconstruction could, perhaps, be rescued if it were assumed that *ǵ had been raised to /u/ before *-i, but this would be entirely ad hoc, and within Villar's own theoretical framework it would be falsified by

¹¹⁹ Prósper (2007:34) explains the change *k^ui- > /k^ue/ as "apertura de /i/ ligada a la enclisis como sucede con los proclíticos como *are-*".

his explanation of **soz** as from **sosi*, since we would then expect **suz* to be attested in its place. Ultimately, it seems unlikely that final **-ǐ* was lost in Celtiberian, and this undermines fundamentally Villar's examples of **VsV > *VzV* in word-final position. In favour of the retention of final **-ǐ* is the sheer consistency of the appearance of the syllabogram <ti> in the ending of third person verbs, e.g. **zizonti** (K.1.1, A7), **bionti** (K.1.1, A7). If <ti> contained a dummy vowel, it might be reasonably expected that syllabograms containing other vowels were also found, leading to spellings such as **auzeta* in place of attested **auzeti** (K.1.1, A10). Furthermore, the form **eni**, 'in' (K.1.1, A4, 7), the Greek cognate of which, *ένί*, regularly has a short final syllable in Homer, provides important evidence of etymological **-ǐ* being preserved in Celtiberian in non-syllabic spellings.

The presence of instances of intervocalic /s/, however, gives reason to doubt the theory that a sound change **VsV > *VzV* took place in Celtiberian. A particularly clear example of this is the pronominal form **soisum** (K.1.3H), the masculine/neuter genitive plural of the demonstrative pronoun, an analogical replacement of Proto-Indo-European **toǐsōm* by extension of the stem variant **so-*, cf. neuter singular **soz** ← **tod* > Gk *τό*, Skt *tád*. Alongside the genitive plural **soisum**, there appear to be a few instances of the Celtic superlative suffix **-isamo-* in Celtiberian, e.g. **sekisamos**, 'strongest'.¹²⁰

Although Villar (1995:45) derives this form from a Quasi-PIE *s*-stem adjective **seg^hes-samo-* [**g^h* rather than **g^h sic*], thus attributing the presence of intervocalic /s/, where he would expect /z/, written <z>, to degemination from **-ss-*, this is belied by the fact that almost all the Celtiberian compounds identified with the root **seg^h-* suggest that the underlying form was a thematic stem, e.g. **sekobirikez**, 'from Segobris' (A.89), **sekotiaz**, 'from Segontia' (A.77). Furthermore, Gaulish personal names such as *Segomarus* also point towards an originally thematic stem. Only **sekaiza(kom)** (A.78) attests an alternative stem vowel, and even here there is no sign of the *s*-stem inflection required to give Villar's form. The *a*-vocalism in **sekaiza(kom)**, as with the *i*-vocalism in **sekisamos**, should surely therefore be interpreted as part of the derivational suffix. Comparative evidence from the other Celtic languages also points towards a front vowel as part of the suffix of the superlative. OW *hinham*, 'oldest', for example, suggests a preform **sen-isam-*: a vowel must have been present between the root and the **-sam-* suffix, in order to trigger the change **VsV > VhV*, and the raising of *hen* to *hin-* is due to internal *i*-affection¹²¹. Similarly, OIr. superlatives in *-em* suggest an original **-isamo-* (CCCG:§323, 2(a)). Although there are a few instances of the superlative suffix without an initial vowel, in these cases, the **-samo-* suffix

¹²⁰ Cf. MIr *sed/seg*, 'strength', MW *hy*, 'brave', etc (Matasović 2009:s.v. **sego-*).

¹²¹ Cf. OW *hendat*, 'grandfather', without raising, < **seno-tat-*.

appears to have been added directly to the lexical root, e.g. OIr. *tressam* < **treg-samo-*, cf. OE *þrak-*, 'strong' < **trog-*. This again does not appear to correspond with the *s*-stem reconstruction offered by Villar. Both the philological and comparative data, therefore, suggest that a Proto-Celtic **seg-isamo-* underlies the Celtiberian form, pointing to the retention of intervocalic **s*, represented by <**s**> in the Celtiberian script. Forms such as **kabizeti**, therefore, should not be considered as subjunctives in *-*se-*.

4 Relics of the Subjunctive in Continental Celtic

In this chapter, the evidence for the subjunctive in the ancient Celtic languages of Continental Europe will be discussed. This discussion will be inherently more diachronic and comparative than that of the Mediaeval Celtic material discussed previously, due to the fragmentary attestation of the languages. Only Gaulish and Celtiberian preserve a significant amount of verbal morphology, and this morphology can only be identified through comparison with other Celtic and Indo-European languages. It is not possible to present complete paradigms of any verb in these languages, and the current level of understanding of their syntax is extremely limited, making external comparison all the more important if any headway is to be made in analysing forms in these languages. Lepontic presents little material useful to the discussion of the subjunctive in Celtic, since the bulk of the corpus consists of personal names. Some of the limited verbal morphology attested in Lepontic will, however, be drawn upon where relevant to the discussion.

The section on each language begins with a table of the forms to be analysed, categorised following suggestions in the previous scholarship. Each form will then be discussed in detail, with particular focus on deciding between the etymological and morphological analyses proposed by previous scholars, and making novel suggestions where the facts require it.

4.1 Gaulish

Gaulish presents limited evidence for the Celtic subjunctive, and the interpretation of many of the forms is open to dispute. Nonetheless, the Gaulish forms attested might provide important evidence for the reconstruction of the subjunctive in Proto-Celtic, due to the language being earlier attested than the Celtic languages of Britain and Ireland. Some of the more promising examples appear to be forms from the Indo-European root **b^huh_x-*, ‘be’, which also underlies forms of the copula and substantive verbs in Irish and Brittonic, although there are also examples of forms which appear to be sigmatic subjunctives, comparable to the *s*-subjunctive of Irish. Four forms, all of them difficult to analyse, have also been suggested to be *a*-subjunctives, corresponding to the same type in Irish. The forms in the table below are drawn principally from *DLG*, but are also supplemented from the list of eight possible subjunctive forms given by Lambert (1994:63), and his revised list in the second edition of *La langue gauloise* (2003:64–65). Unless otherwise stated, references are to *RIG*.

Table 4-1 Possible Gaulish Subjunctives

Formation	Possible attestations
Subjunctive in <i>-s^e/o-</i> :	<p>gabxsitu/agabxso [(L-101, A3)</p> <p>íexsetesi (L-93, 2)</p> <p>íexstumisendi (L-93, 9, 11)</p> <p>legasit (L-79)</p> <p>lustas (L-33)</p> <p>redresta (L-49)</p> <p><i>scrisumio</i> (<i>De Medicamentis</i>, XV.106)</p> <p>sesit (L-101, 8)</p> <p>(su)rexetesi (L-93, 5)</p>
Subjunctive in <i>-a-</i> :	<p>atesolas (L-53)</p> <p><i>axat(i?)</i> (<i>De Medicamentis</i>, VIII.171)</p> <p>lliauto (L-44)</p> <p>lubíias (L-36, 1)</p>
Thematic subjunctive (root-aorist/present):	<p>buetid (L-100, 8-9)</p> <p>bueti (L-101, B1)</p> <p>bueđ (L-98, 2B.2)</p> <p>biietutu (L-98, 1B.9)</p> <p>biontutu (L-98, 1B.6, 1B.11, 2A.7)</p> <p>biiontutu (L-98, 2B.7)</p> <p>deuorbuetid (L-66, 6)</p> <p>lopites/lotites (L-100, 3)</p> <p>lunget (L-98, 1A.6)</p> <p>sniedđic (L-101, 3)</p>

4.1.1 The *s*-subjunctive in Gaulish

There exist a number of verbal forms in Gaulish characterised by a morpheme *-s-*, which has led to comparison with the *s*-subjunctives of Irish. Due both to our limited understanding of the language and the frequent difficulties of reading and interpreting sometimes heavily damaged texts, it is not certain that all of the forms here cited are subjunctives. They will therefore be analysed individually in order to determine to what extent they are admissible as evidence of the existence of the category in Gaulish.

4.1.1.1 *gabxsitu/agabxso*[

The text on which this form is found, the so-called “Plomb de Lezoux” (L-101; see appendix) is particularly damaged on the right-hand side of the text, the side on which this form happens to be found, making both transcription and interpretation difficult. The text support is a small lamella – c.4cm when unfolded – which was folded around a coin bearing the face of the emperor Trajan, who reigned from 98 to 117 CE, meaning that there is, at the very least, a *terminus ante quem non* for when the lamella was deposited. The context of the item is funerary, which, alongside the fact that the support is a lead lamella, would seem to suggest that the content of the inscription is a *defixio*, as has been noted already by Mees (2010:48). Based on the published photograph (*RIG* II.2:283), all that can reliably be read of the word in question here is the sequence **gabxs**], with a trace of another letter in the break, possibly <e>, <i>, <o>, <p> or <t>. The reading **gabxsitu** is given by Fleuriot (1986:65), and accepted by Mees (2010:54–55), while Lambert (*RIG* II.2:282) gives the reading **agabxso...**, which is probably better transcribed as **agabxsø**], given the damage to the text. In the discussion of the putative Gaulish sound-change **-set(#)* > **-sit(#)* (3.1.2.6 above, with footnotes) it was suggested that a reading as **gabxsę[t]** might also be a viable interpretation of the traces remaining of the ending of this form, particularly visible in the photo in Fleuriot (1986:64), where they do not seem to fit the more general pattern of damage to the support.

Lambert appears to be motivated to read **agabxsø**][. by the gap to the left of the letter he reads as the first <a>, although it is equally possible that the scribe was forced to separate this <a> from the rest of the previous word, transcribed by Lambert as **tręans**. This is due to the fact that the tail of the letter <s> on the second line continues through the entire height of line three, on which the sequence **tręansagabxs**] is found. This, combined with the generally irregular letter spacing on the text, would suggest that a reading as **gabxs**] is at least as likely as **agabxsø**]. An interpretation as **agabxsø**] is also rather more difficult to analyse morphologically than the alternative, since the <s> of the form is only realistically likely to be either the morpheme **-s-*,

marking the *s*-aorist, or **-se-*, marking a subjunctive.¹²² Since the ending of the form appears to be verbal, the element <a> would have to be analysed as a preverbal element of some sort. It is difficult to identify a preverbal element that would take this form in Gaulish, and the only reasonable candidate appears to be **ad*. As has already been seen, however, the preverb **ad* is preserved with its final **d* intact in forms such as **adogarie** (Chartres, A7), meaning that it is unlikely that Lambert's **agabxso**[could reflect a Proto-Celtic **ad-gax-s-*. If the form is instead read as **gabxs**], it is immediately attractive to draw comparison between this form and the Irish verb *gaibid*, 'take', a verb which forms an *a*-subjunctive and *s*-preterite from its earliest attestations in Irish.

As mentioned briefly above, Mees (2010:54–55) agrees with Fleuriot's reading, although he more cautiously denotes the damage to the last three letters of the form, transcribing it as **gabxsītu**.¹²³ He suggests that this form might reflect a Gaulish past subjunctive, with the *it*-preterite ending seen also in forms such as **καρνιτου** (G-151). Although there seems to be little visible in the text to justify such a reconstruction of the final three letters, the reason for a subjunctive interpretation is largely syntactic, and stands scrutiny reasonably well, although it is not the only possible interpretation of the syntax of the text. Mees (2010:52, 55) takes the broader context of the form as the following:

¹²² Lambert (*RIG* II.2:280–84) gives no analysis of the form he transcribes as **agabxso**[to support his interpretation. Since he transcribes the final letter as <o>, the available interpretations for the form are as a thematic noun in the nom./acc. sg. or perhaps gen. pl., i.e. <**agaxs-os*, **agaxs-on*, or possibly a 3pl. verbal form **agabxso**[nt. Analysing the form as a noun would leave the first half of the lamella quite deficient in verbal forms, however, making it the *lectio difficilior*. If Lambert is correct to read <o>, a 3pl. verbal form **(a)gabxso**[nt might agree with the preceding plural noun **secoles**, but from the images available it seems unlikely that there would have been sufficient space on the lamella for the sequence <nt> to fill the damaged section. Both options are etymologically obscure, however, and consequently have little to commend them.

¹²³ Fleuriot's reading is also accepted by Eska (1990:86–88), without indication of the brokenness of the text. He suggests that **gabxsitu** reflects a recharacterisation with the preterite ending *-itu* of a 3sg. *s*-preterite **gab-i-s-it*, seemingly built to the present stem **gab-je-* attested in OIr. *gaibid*. His supposed motivation for this recharacterisation is that **gab-i-s-it* would have fallen together with the reflex of the 3sg. subjunctive, for which he sets up a pre-form **g^hab^h-je-se-ti*, presumably on the basis of the interpretation of Celtiberian **kabizeti** as /gabiseti/, which he suggests would have developed into **gabisit* (by **-je-* > **-j-*, apocope of final **-i*, and **-et#* > **-it#*) > **gabsit* (syncope of the medial syllable). A number of aspects of this analysis are questionable, and two of the principal developments suggested by Eska, namely **-et#* > **-it#* (for which the only corroborating evidence available to Eska is the similar development in Latin, e.g. *bibit* < **pi-ph₃-e-ti*), and syncope (for which he adduces no parallels), as has already been observed, seem unlikely to have taken place in the history of Gaulish.

lutura ieur[u]
secoles pom[po]n
ṭṛęansa gabxsiṭu
tri aram[onus]
tri catic[a]nus
o[.]ęṣ secoles

As with the readings given by Fleuriot and Lambert, discussed above, some aspects of the reconstruction of lines 1-6 given by Mees are somewhat speculative. Although his reading of the first line is quite uncontroversial – **lutura** seems a good morphological match for an *ā*-stem female personal name, possibly meaning “passionate one” (DLG:212), and the verb *ieuru*, ‘dedicated’, is well attested in the corpus – his interpretation of the form **secoles** in the second line requires some revision. He suggests that the form is an “oblique plural (with *-ēs* < **-eis*), i.e. and inherited morphological locative” (2010:52), and compares the form with the Latin dative-ablative plural in *-īs* < OLat. *-eis*. Although there are good syntactic grounds to expect an indirect object in an oblique case after the verb **ieur[u]**,¹²⁴ Mees’ identification of the form with Latin *-īs* cannot be maintained on phonological grounds. The Old Latin form regularly continues the PIE locative plural **-ōis*,¹²⁵ the Gaulish result of which is not entirely clear, but may have been **-ūis* > **-ūs*.¹²⁶ The ending in question is possibly attested in **τοουτιους**, ‘with the tribes(?)’ (G-153), according to Lambert (2003:87). The development **-ūis* > **-ūs* would have led to syncretism between the *o*-stem instrumental plural and the accusative plural *-ūs* < PC **-ūs* < Early PC **-ōs* < PIE **-ons*, cf. OIr. *firu* < **uirūs*. Consequently, assuming that the dative, locative and instrumental were at least partially syncretic in Gaulish,¹²⁷ the form **secoles** could be explained by the extension of the vocalism of the inherited locative *-ē* < PC **-ej*, to the instrumental plural, leading to **-ūs* → *-ēs*. Although not the most satisfactory explanation, it is clear on phonological grounds that Mees’ suggestion cannot be maintained, and treating **secoles** as a replacement of earlier **sekolūs* provides the expected indirect object of the verb **ieur[u]**.

Alongside the problem Mees’ reading of the form **secoles**, in the images available, there is no trace in the published images of the <n> Mees places at the end of the second line, and the reading **ṭṛęansa** is also quite unclear, despite being from the less damaged side of the text. In order to

¹²⁴ Although there are some inscriptions without an indirect object of dedicatee, e.g. **ratin briuation frontu tarbetis[co]nios ieuru** (L-3), the verb is frequently construed with an indirect object of recipient in the dative or locative, e.g. **ειωρου βηλησαμ** (G-153); **eluontiu ieuru** (L-4); **ieuru brigindone** (L-9).

¹²⁵ PIE **-ōis* > Pit. **-ōis* > OLat. *-eis*.

¹²⁶ Parallel with *o*-stem dat. sg. *-ū* < Gallo-Greek *-ou* < PC **-ūj*.

¹²⁷ As is perhaps shown by the variation between loc. sg. **in alixie** (L-79) and instr. sg. **in alisiā** (L-13).

read **treansa**, it must be assumed that the letters <r> and <e> have been clumsily ligatured, leaving the sequence <tr> in this line very dissimilar to the same sequence at the start of the following two lines. Mees' interpretation of the remainder of the line as **gabxsītu** is also quite difficult, both on the palaeographic grounds already mentioned, and also from a morphological perspective, as is the suggestion he offers (2010:54) that Gaulish possessed a past subjunctive. A general objection to such a suggestion is that the past subjunctives of OIr. and Brittonic are quite clearly innovations of those branches, formed by adding the endings of the synchronic imperfect tense to the subjunctive stem. Generally speaking, a "past subjunctive" category is not reconstructed for Proto-Indo-European, and branches such as Italic which possess subjunctives corresponding to their past tenses have clearly innovated in developing them. It is consequently not at all self-evident that Proto-Celtic would have possessed a past subjunctive, meaning that it is quite difficult to believe that Gaulish would have such a category, either. Moreover, explaining a fragmentary form such as **gabxsītu** by recourse to a category otherwise unattested in the language is methodologically quite unappealing and somewhat suspect.

In addition to this general and methodological objection to the projection of an Insular Celtic category onto Gaulish, there is the rather more significant and specific morphological problem that, if **gabxsītu** were taken as a "past subjunctive", it is hard to see how it would have been in any way morphologically distinct from the corresponding 3sg. preterite indicative form. Whereas in Irish and Brittonic the forms of the *s*-preterite indicative and the past forms of the *s*-subjunctive are distinguished by different endings, there is no trace in Gaulish of distinctive ending sets to separate the two categories. Instead, Gaulish appears more likely to have retained the Proto-Indo-European system of distinguishing between the present and imperfect by the use of primary and secondary endings, respectively, albeit it with some remodelling as a result of sound change.¹²⁸ Although the Gaulish ending *-itu* is perhaps superficially similar to the OIr. 3sg. impf. ending *-ed/-ad* < **-eto*, which is used as the 3sg. ending of the past subjunctive in OIr.,¹²⁹ Gaulish *-itu* is

¹²⁸ The evidence for this is admittedly indirect and quite scanty. It essentially consists of the 3sg. preterite endings *-itu* and *-ite*, which, according to Eska and Evans (2009:37), derive from the 3sg. imperfect of verbs in **-je-*, i.e. **-it* < **-jed*. Such an etymology for the attested endings *-itu* and *-ite* presupposes the preservation of the primary/secondary ending contrast into the immediate ancestor of Gaulish and Lepontic/Cisalpine Gaulish, which at the very least makes it a realistic possibility that such a contrast also persisted in Gaulish of the period of its attestation.

¹²⁹ Note, however, that the OIr. ending is generally identified with the 3sg. secondary middle ending **-(e)to* (Stüber 2017:1212), which would probably have survived into Gaulish in its Proto-Celtic form. Similarly, since the Proto-Celtic diphthong **ou* seems to be preserved at least in early Gaulish, e.g. gen. sg. **toutas** (E-1); instr. pl. (?) **τουτῖουϛ** (G-153), connecting *-itu* with OIr. 3sg. impv. *-ed* < **-etou* seems untenable.

securely attested only in verbs which clearly correspond with a Latin perfect tense indicative form in bilingual inscriptions, so there is little reason to suppose that it was ever used as a subjunctive ending in Gaulish. It also seems likely that the principal distinguishing feature between the subjunctive and the *s*-preterite stem in Proto-Celtic was the fact that the former contained the thematic vowel **-e/o-*, as is demonstrated by the MW reflexes of the *s*-subjunctive, e.g. *duch* < PC **douχseti*, rather than **douχsti* > **ducht* or similar (*pace* Kortlandt 1984). If the form is to be read as **gabxsītu**, we would consequently appear to be compelled to interpret it as a 3sg. preterite indicative, with **gabxsītu** ← **gaχt* < **gab-s-t*.

There are, in fact, Insular Celtic parallels for the recharacterisation of the preterite stems of roots ending in a labial stop.¹³⁰ There are three OIr. verbs with root final **b* which form their preterite stems in **-Vss-*, rather than the *t*-preterite one might expect for non-dental stop-final roots, such as *ro-ort*, ‘slew’, to present *oirgid*. The three verbs are *erbaid*, ‘entrusts’, < PC **erb-(j)e-ti*, 3pl. preterite conjunct *ro-eirpset* < **ro-erb-ess-ent*; *gaibid*, ‘takes’ < **gab-je-ti*, 3sg. preterite absolute *gabais* < **gab-as-ti* ← **gab-as-t*; and *ibid*, ‘drinks’, < **φib-e-ti*, 3sg. preterite absolute *ibis* < **ib-es-ti* ← **ib-es-t*. Similarly, all three of these verbs take an *a*-subjunctive. This would seem to provide reasonable evidence that the sequence **-b-s-* was avoided at morpheme boundaries by speakers of Proto-Irish, presumably due to the ambiguity it introduced as to the quality of the root-final consonant. The most likely source for this recharacterisation seems to be analogy between the *s*-preterite and the *s*-subjunctive of roots ending in Proto-Celtic **ǎ* < PIE **H*, e.g. 3sg. *anais*, ‘waited’ < **ana-s-ti* (recharacterisation with primary ending) ← **ana-st* (transfer of vocalism from present stem) ← PC **īna-st* < PIE **h₂ēnh₁-s-t*; *anaid* < **ana-se-ti* < **h₂enh₁-se-ti*. This would allow for an analogy along the lines of **anaseti* : **gabǎseti* :: **anast* : X, where X is resolved as **gabast*.¹³¹ Similarly, MW attests a 3sg. preterite *cafás*, which Schumacher (*KPV*:324) suggests also continues **gab-ass-*, meaning that the recharacterisation of the *s*-preterite might be projected back to a putative Proto-Insular-Celtic. Since the OIr. and MW forms point, albeit indirectly,

¹³⁰ This stop is, in practice, always Proto-Celtic **b*, which would continue PIE **b* or **b^h* in this position. Although PIE **p* > PC **φ* > \emptyset in all attested Celtic languages, in principle a trace of PIE **p* could be retained in the preterite stem, due to PIE **-p-s-* > PC **-χs-*, but it appears that no PIE verbs with root-final **p* survived into Celtic (*KPV*:769–72).

¹³¹ The further remodelling of **erb-ass-* and **ib-ass-* to **erb-ess-* and **ib-ess-* still lacks satisfactory explanation, since **erb-ass-* and **ib-ass-* would have caused depalatalisation in syncopated forms, e.g. **ro-erpset* in place of *ro-eirpset*, **ass-ebsem* in place of *ass-ibsem*. Watkins’ suggestion (1962:136) that the selection of **-ass-* or **-ess-* “was doubtless conditioned by vowel harmony” is not very satisfactory. It is possible that the quality of the vowel of the present stem was transferred to the preterite, but it is then unclear as to why the same did not occur with **gab-je-ti*.

towards a Proto-Celtic *s*-preterite stem **gaχs-*, a form **gabxsītu** would seem more likely to be a preterite indicative than a past subjunctive.

If, rather than reading **gabxsītu**, we adopt the reading **gabxsēt** suggested above, a subjunctive interpretation of the form can be maintained. This reconstruction appears to be at least as viable as the Fleuriot-Mees reading, given the letter-traces preserved in the damaged area of the support, and would be the predicted reflex of a Proto-Celtic **gaχ-se-ti* in non-initial position, under the sound laws suggested above. We thus arrive at two possible interpretations of the morphology of this verb, which might also determine how the document is read as a whole. If the reading **gabxsītu**, proposed by Fleuriot and advocated by Mees, is retained, it is likely that the tablet is a *defixio*, seeking revenge against a thief. The sequence **lutura ieuṛ[u] | secoles poṇ[| tṛeansa gabxsītu** might be interpreted as “Lutura dedicates to the Secoli whoever has taken the *treansa...*”, with **poṇ[** reflecting the indefinite-interrogative pronoun **kʷo-/*kʷi-*, as proposed by Mees (2010:53). This interpretation is similar to that given by Mees (2010:60), but differs from his treatment of the form **gabxsītu** as a subjunctive, an interpretation which we have now seen is quite difficult to sustain.¹³² If the reading **gabxsēt** is accepted instead, we should read the tablet as a spell of protection over the contents of the burial in which it was found. In this case, the sequence **lutura ieuṛ[u] | secoles poṇ[| tṛeansa gabxsēt** is to be interpreted as “Lutura dedicates to the Secoli whosoever should take the *treansa...*”, presumably referring to any grave goods in the burial site.

In summary, then, there are two possible readings of this form and its wider context. Under the reading proposed by Fleuriot and accepted by Mees, it is to be read as a 3sg. *s*-preterite form, seemingly as part of an invocation for retribution for a theft already committed. If the alternative reading proposed here is accepted, the form can be read as a 3sg. *s*-subjunctive, and the text perhaps treated as a spell of protection against violation of the grave in which it was found. Regrettably, it is difficult to determine further which of these interpretations is to be preferred.

4.1.1.2 íexsetesi and íexstumisendi

These forms are both found on *RIG* L-93, a ceramic tile bearing an eleven-line inscription (see appendix). The dating of the text is somewhat uncertain, since it was found among the material used to fill a defunct well, which seems to have been in use from the second half of the 2nd century CE and through the 3rd century. Lambert (*RIG* II.2:238) suggests “[l]e remplissage du puits serait

¹³² It might be objected that the use of an indefinite relative clause, translated here as ‘whoever’, would militate in favour of a subjunctive interpretation of the verb. This is not so, however. If the form is to be interpreted as **gabxsītu**, the curse has been written after the offence, meaning that, although Lutura may not know who the culprit was, she knows that a crime *has* been committed against her.

datable de la première moitié du IV^e siècle”, but this only means that the text can be uncertainly dated to the period 150-300 CE, and Schrijver (2001:135) suggests an even later date of “probably third to fourth century A.D.”. The text is quite legible and well preserved, although its content is rather obscure, as conceded by Lambert in his attempt at a translation (2001a:112–13), and the text has very few clear word divisions, making it difficult to segment individual words from each other with any certainty.

The forms **íexsetesi** and **íexstumisendi** appear to be related with a number of other forms in the text, and consequently form part of one of the more complete Gaulish verbal paradigms attested. At least two forms which appear to be first person singular are attested, namely **miííégumi** (line 2), probably to be segmented as *miíí íégumi*; **íégumisini** (line 7), probably to be segmented as *íégumi sini*. The form **íéguisini** (line 5) is probably also to be considered as 1sg., with the missing <m> being attributed to scribal error (Lambert 2001a:96), and therefore restored to *íegu(m)i sini*. There is also a form **íégiinna** (line 5), which is rather less clear in its analysis: Lambert (2001a:80–81) tentatively suggests that it might derive from the Indo-European suffix **-jeh₁-*, otherwise all but unattested in Celtic,¹³³ postulating a connection with the Irish 1sg. imperfect ending *-inn*, but ultimately concludes that the form is perhaps more likely to be nominal, having in mind such forms as Oscan **úpsannúm**, ‘*operandum*’ (2001a:86). He suggests that the suffix might represent “une évolution tardive du suffixe de participe présent médio-passif *-mno-*”. Such an etymology is, however, rendered quite difficult to sustain by the preservation of the sequence *-mn-* in the first word of the inscription, **nemnalíumi**, although the reading of the sequence here is not entirely certain. Aside from the interpretive difficulty related to the form **íégiinna**, from

¹³³ The only other possible example in Gaulish, **nitixsintor** (L-98, 1A.7), labelled an optative by Lambert (2003:65), can be explained in other ways, which do not require the assumption that Gaulish preserves the PIE optative **-jeh₁-/*-ih₁-*. In the first instance, **nitixsintor** is a poor formal match for the optative, a category generally associated with secondary verbal endings (Sihler 1995:595), since it exhibits an inherited primary ending **-ntor*. **nitixsintor** could, however, be the result of (admittedly sporadic) raising of /e/ > /i/ before /nC/, possibly only after front-articulated consonants, and thus reflect a 3pl. medio-passive or deponent subjunctive **tig-se-ntor*. Although this is an ad hoc proposal, it might draw support from the several instances of raising before nasals and nasal-stop clusters attested in the prehistory of Irish (Stifter 2017:1198–99). Furthermore, the quality of the vowel in the initial syllable is problematic: we should expect an *e*-grade in the root syllable of an *s*-subjunctive, but written <i> tends to reflect PC **ĩ* < PIE **ĩ* or PC **ĩ* < PIE **iH*, **eh₁* or **ē*, meaning that, unless we are dealing with a root of the shape **teh₁K-*, the root is likely in the \emptyset -grade. From a syntactic perspective, the fact that the preceding word to both instances of **nitixsintor** is **ponc**, generally treated as the conjunction ‘when’, and derived from **k^uom-k^uě* might be informative, but reflexes of the pronominal stem **k^uo-/*k^ui-* are few and far between in Gaulish, and it is uncertain what the rules of verbal syntax were in the clauses following them.

the attested forms of the **íexsetesi** paradigm it is clear that the underlying verbal root has the form /jeg-/, with /iexs-/ being the expected result of adding a suffix in *-s- to this form, cf. MW 3sg. subj. *duch* < PC **douxseti* < PIE **deuk-se-ti*. What is less clear is whether this suffix can be said to be a subjunctive morpheme in both **íexsetesi** and **íexstumisendi**, since a morpheme in *-s- could also point towards an interpretation as an s-aorist, among other possibilities.

Delamarre (*DLG*:187–88) suggests that the meaning of the root is ‘appeler, implorer’, and provides two possible etymologies. The first is with the root **iek-*, ‘sprechen’ (*LIV*²:311), which has verbal cognates only in Germanic (OHG *jehan*, ‘sprechen’, OS *gehan* ‘aussprechen, bekennen’), but also underlies nominal forms related to speech in both Celtic (e.g. MW *ieith* > ModW *iaith*; ModBr *yezh*, both ‘language, nation’) and Italic (Lat *iocus*, ‘joke’). As noted by Delamarre (*DLG*:188), however, following Schrijver (2001:140), the fact that the Gaulish lexeme shows a root-final /g/ whenever it is not followed by /s/ renders the identification with this root problematic. Although a sound-change Proto-Celtic **k* > (Late?) Gaulish /g/ /V_V is by no means impossible, and indeed there are no secure examples of intervocalic <c> (= /k/) in the text to contradict such a development, it would be somewhat ad hoc to postulate such a sound-law, given the absence of further evidence for such a phonological change. Furthermore, it would seem likely that a lenition **k* > /g/ would be accompanied by the lenition of other intervocalic stops, which is observably not the case in this text, as indeed the form **íexsetesi** itself, rather than a putative **íexsedesi*, demonstrates. The other etymological possibility presented by Delamarre (loc. cit.), following Schrijver (2001:140–41), is that of identifying the Gaulish root **íeg-** with the Irish verb *éigid*, ‘cries out, screams’ (*eDIL*: s.v. *éigid*), MW *wylo*, Br (*g*)*ouelañ*, Co *ole*, all ‘to weep’. Schrijver’s etymology requires the reconstruction of a diphthongisation otherwise unattested in Gaulish in order to produce **íeg-** < PC **ēg-* < PIE **h₁eiǵʰ-*, ‘begehren’ (*LIV*²: s.v. **Heiǵʰ-*).¹³⁴ The identification of the root **íeg-** with a root meaning ‘want’ or ‘desire’ in other Indo-European languages (Ved *sam-īhase*, ‘strives for, desires’, OAv *iziīā*, ‘wants, wishes’) is appealing, however, if the context of the inscription is to be taken as a prayer or incantation.

Mees (2011:97–98) essentially accepts Schrijver’s etymology, but derives **íex-** from the reduplicated present stem **h₁i-h₁éiǵʰ-*. Working from the reduplicated stem allows for the initial glide of the Gaulish root to be accounted for without Schrijver’s rather speculative theory of a diphthongisation **#ē* > /je/. It seems likely that PIE **h₁i-h₁éiǵʰ-* would have developed regularly into Proto-Celtic **i-ēg-*, at which point the vocalic **ǵ* of the reduplication syllable would have

¹³⁴ *LIV*² does not specify the quality of the laryngeal, but if the connection with OIr. *éigid*, Gaulish *íeg-* is correct, it would seem that the laryngeal must be **h₁*. The Brittonic forms are to be interpreted as denominal formations, from a Proto-Brittonic **ēg-la-* (Schrijver 2001:141).

developed into the glide **j* in order to simplify the root onset. Mees appears to treat the semantic development from ‘want, desire’ to ‘cry, scream’ as Proto-Celtic in date, since his suggestion for the semantics of the Gaulish root *íeg-* takes the semantics of the root as having developed further towards ‘curse’. This is not, however, an entirely intuitive development, particularly when all of the uses of the verb in L-93 are considered. Although “a call upon the otherworldly powers to ‘scream’”, as Mees (2011:97) suggests interpreting **íexsetesi**, might constitute a sort of curse, the same cannot easily be said for the first person singular forms of the verb attested in the text, given that the writer to the text presumably does not believe that they themselves can curse another simply by “screaming”. Consequently, a semantic development towards ‘decry’ or ‘denounce’ might more adequately account for the 1sg. forms, while still being an appropriate action to entreat of an “otherworldly power”. In tentative agreement with Mees’ (2011:87–91) identification of the text as a *defixio*, the semantics ‘decry, denounce’ will be adopted for Gaulish *íeg-* here, while acknowledging that other interpretations of both this verb and the genre of the text as a whole have been made.

Only Lambert (2001a:80) has proposed interpreting **íexstumisendi** as containing a subjunctive verbal form, and only tentatively, suggesting that the form would have undergone “syncope de la voyelle *-e-*”. More specifically, he proposes (2001a:96) that the form might reflect a “subjonctif prés. 2 sg. (avec simplification *Iexses* > *Iexs*)”. Given that there is little or no good evidence of syncope as a productive phonological process in the history of Gaulish, it seems unlikely that a development **íexses* > **íexs-** should have taken place. There is also no evidence from the tablet itself of recent syncope in the form of consonant clusters that might be considered “atypical” for the corpus: if there had been a recent wave of syncope, we might expect to find, for example, **dagsamo* or **dagismo* in place of the attested **dagisamo** (L-93, 8). The same consideration would also seem to invalidate Mees’ suggested interpretation (2011:103), that “*íexstu-* appears to represent a syncope expression comparable to Lezoux *gab{x}siṭu* (i.e. a sigmatic perfect)”¹³⁵: there is simply no reason to suppose that such a syncope might have taken place. Since the second instance of the sequence **íexstumisendi** forms the end of the inscription,¹³⁶ it is reasonable to assume that it is also the end of a sentence. Consequently, the interpretation given by Schrijver (2001:138–39) can quite confidently be accepted here, and **íexs-** interpreted as the result of *i*-apocope upon a *si*-imperative **íexsi*, of the type attested by OIr. *at-ré* < **reg-s* < **reg-si* (Jasanoff 1986). The remainder of the sequence can then be interpreted as a series of pronominals: 2sg.

¹³⁵ This seems to be a retraction of his interpretation – discussed immediately above – of **gabxsiṭu** as a 3sg. past subjunctive, although this is not made explicit.

¹³⁶ The first instance, at the end of line 9, two lines before the end of the text, is taken by Mees (2011:103–4) as following a collective theonym *Rega*, ‘Straighteners, Fixers’.

nom. **tū* > **tu**, 1sg. dat.-loc. **moī* > **mi**, and anaphoric sg. acc. **sindin* > **sendi**. This would lead to an interpretation of **íexstumisendi** as “denounce her for me!”, which would seem a suitable final invocation of a *defixio*. Consequently, this form cannot provide direct evidence for the form or function of the Gaulish subjunctive, since the required syncope to produce **íexs-** < **íexses* is unlikely to have taken place. If the *si*-imperative is interpreted as a haplogised 2sg. *s*-aorist subjunctive, i.e. **-se-si* > **-si* (as does Jasanoff 2002:294), however, it perhaps provides indirect evidence for an *s*-subjunctive of the type **h₁éǵ^h-se-*.

The case for a subjunctive interpretation of **íexsetesi** is rather stronger than that for **íexstumisendi**. Lambert (2001a:96) sets out a number of possible explanations for the form **íexsetesi**, several of which are brief, unsupported speculations meriting no further engagement here.¹³⁷ Of the more interesting suggestions, the first derivation he offers is from a 3sg. thematic subjunctive with a secondary ending, **íexsed*, following Schrijver’s suggested order of developments, **íexsed* > **íexse* > **íexsi* > **íexs*. As has been seen already, however, there is considerable reason to doubt this relative chronology, and a derivation of **íexsetesi** from an apocopated **íexsed* can be dismissed as violating the revised relative chronology established above (3.1.2). Similarly, Lambert’s suggestion that the form might be segmented as 2pl. *íexsete*, followed by a 2pl. subject pronoun *sī* < **sūī* < **sūē* does not stand scrutiny at all well,¹³⁸ given that there is good evidence for the preservation in Gaulish of the cluster **sū*, e.g. **suexos**, ‘sixth’ (L-29.12) < PIE **s_ueks-to-*, and even in the immediately following form on L-93, **sue**. Although it is possible that a simplification **sū* > /s/ took place before /i:/, to suggest such a development in the absence of further, and more compelling, etymologies, and thus to explain a form in a document where **sū* is otherwise preserved, is far too ad hoc to be at all appealing. Lambert’s final suggestion, that the form represents a 3sg. subjunctive **íexsete** < **íexseti*, also fails to provide a satisfactory explanation. In this scenario, he treats the ending **-eti* as having been “‘restored’ to the present subjunctive as a result of the loss of the secondary desinence”,¹³⁹ i.e. **íexseti* ← **íexs* < **íexsi* < **íexse* < **íexsed*. Quite apart from any other objection to this explanation of the form, this derivation is inconsistent from a theory-internal perspective. If Lambert is following Schrijver’s

¹³⁷ In particular, his (2), suggesting a relation between the ending **-etesi** and the MW copula 3sg. pres. *ydiw*, Br. *nedeo* (with negation) deriving from a 2sg.(?) **etesi* or 3sg. **eti-esti* seems to merit no further discussion: such a form is unparalleled outside of Brittonic, so projecting it onto Gaulish is unwarranted. Similarly, his (3), a simple comment that the sequence **-sete-** appears several other times in the inscription offers little to the discussion of this or any other form.

¹³⁸ On the form of the 2pl. subject pronoun in Celtic, which appears to have undergone a complex process of remodelling from PIE **ues-*, see McCone (1994:186–87).

¹³⁹ “Elle aurait été « restaurée » au subjonctif présent, du fait de la disparition de la désinence secondaire.”

chronology (2007) of the developments affecting final syllables, early *i*-apocope would have reduced the primary ending **-eti* > *-et* in all circumstances in Gaulish, meaning that there would be no ending **-eti* remaining to develop into Lambert's **-ete*. We would consequently expect to find ^x**íexsetsi** here, rather than the attested **íexsetesi**, if Lambert were correct in identifying the form as a “restored” 3sg. subjunctive.

As has already been said, it seems most likely that the correct interpretation of this form is that of Mees (2011:97–98), as a 2pl. subjunctive with the final **-i* of its primary ending preserved due to being at the head of its clause, followed by a 2pl. subject pronoun **sue**. Stifter (2009:242–43) objects that the sequence **sue** cannot be a 2pl. pronoun because it “occurs in two other instances (ll. 5, 8) after forms that do not look like 2pl. (sic) verbal forms”, but this does not appear to be the case when the facts are assessed more closely. In line 5, **sue** appears before the form **rexetesi**, which probably shares the same desinence as **íexsetesi**, while its appearance in line 8 immediately follows the sequence **sete** at the end of line 7, which can feasibly be taken as a secondarily thematised 2pl. imperative of the verb “to be”, with PC **sete* ← **h₁s-te*.¹⁴⁰ Consequently, it can be concluded, albeit cautiously, that **íexsetesi** represents a 2pl. subjunctive with an inherited primary ending.

4.1.1.3 legasit

This form, already mentioned in passing during the discussion of the form **sosio** and of the putative sound change **-sēt* > */-sit/* (3.1.2.6) is found in a short inscription, seemingly a dedication, on a vase, discovered in 1848 during excavation of the necropolis around Bourges. As the excavation was poorly documented, its precise archaeological context is unknown, but the fact that it was discovered in a funerary site certainly suggests that the context of the find, if not the dedication, was funerary also (Dupraz 2015:2–4). As mentioned briefly above (3.1.2.1.1), due to the lack of detailed archaeological context the only criterion on which the vase can be dated is its epigraphy. On this basis, Lambert (*RIG* II.2:205) dates it to the 3rd century CE, an assessment accepted by Dupraz. The whole inscription is as follows, with word divisions following Lambert (2003:138) and Dupraz (2015:3):

¹⁴⁰ PC **ste* < PIE **h₁s-te* was presumably thematised in Gaulish due to the fact that it would have developed into **tē*, obscuring both root and desinence. Mees (2011:102) erroneously takes **sete** as reflecting an inherited thematic imperative **h₁s-ete*, but the comparative evidence, e.g. Hitt. *ēšten*, Ved. *stá*, Lat. *este*, Gk. *ἔστε*, confirms that the PIE form was athematic **h₁s-te*. The full grades of Hittite and Latin are presumably secondary, since Vedic is unlikely to have innovated a \emptyset -grade *stá*, and Hittite attests the \emptyset -grade root *aš-* < **h₁s-* in the other imperative plural forms.

BUSCILLA SOSIO LEGASIT IN ALIXIE MAGALU

(RIG L-79)

The majority of the proposed etymologies of **legasit** (e.g. Isaac 2001:352; Lambert 2003:139; McCone 2006:228) have derived it from the Indo-European root **leg^h-*, ‘sich (hin)legen’ (LIV²:398), although not always agreeing as to their morphological analyses and explanation of the element spelled <a>. Dupraz (2015:13–16) diverges from this etymological consensus, instead suggesting – largely on pragmatic grounds – that it continues the root **leġ-*, ‘sammeln, auflesen’ (LIV²:397). Since both **leg^h-* and **leġ-* would have produced Gaulish **leg-**, there are no phonological criteria by which one of the two roots might be selected as the correct interpretation. How the form is interpreted is consequently dependent on how the syntax and particularly the semantics and pragmatics of the rest of the inscription are understood, making a word-by-word analysis the best way to proceed in order to establish the possible interpretations of the individual forms, before attempting to treat the inscription as a whole. The most transparent form in the inscription is a subject in the nominative singular, **buscilla**, probably a feminine personal name. Perhaps the next easiest component of the text to analyse is an adverbial phrase of location, **in alixie**, generally taken as meaning ‘in Alesia’, referring to a known Gaulish settlement. The principal difficulty posed by this form¹⁴¹ is that the likely site of Alesia is around 190km from Bourges (Reddé 2012).¹⁴² This would seem to imply that the vase had been transported from the site of its inscription, which might have significant consequences for the interpretation of the inscription as a whole. Most notably, the fact that the object was not found in Alesia moves the balance of probabilities for the semantics of the root away from the ‘sich (hin)legen’ reconstructed for PIE **leg^h-*. If the phrase **legasit in alixie** meant ‘laid in Alesia’, after all, it is difficult to explain the fact that the vase was found in Bourges. Consequently, the alternative identification of the underlying root as **leġ-*, ‘sammeln, auflesen’, given by Dupraz, seems somewhat more likely in the light of the phrase **in alixie**.

The last form of the inscription is an indirect object in the dative-locative, **magalu**. This word is more difficult to interpret than the other nominal forms in the text. It is customarily derived from a Proto-Celtic root **maglo-*, ‘chief, prince’, (cf. OIr. *mál*, ‘noble, chief’, Ogam gen. sg. *cuna-magli*, ‘dog-chief; MW *mael*, ‘chieftain, lord’) a derivative of PIE **meġh₂-*, ‘big’. It could, therefore, simply represent an anthroponym **Magalos*, who would be the recipient of the vase, presumably as a

¹⁴¹ The phonological and morphological problems related to its inflectional ending have already been treated in the discussion of the historical phonology of Gaulish, above.

¹⁴² Although the precise site of Alesia is still debated, it is clear that it was not at Bourges, where the Gaulish settlement of Avaricon (Roman Avaricum) was located.

gift. The onomastic element **maglo-* also appears, however, in a number of early Celtic theonyms, such as Cunomaglos, ‘Dog-Prince, Dog-Chief’, a British god who became identified with Apollo after the Roman conquest, and to whom a shrine was dedicated at Nettleton Shrub, Wiltshire (*RIB* III 3053-4).¹⁴³ Similarly, a Latin votive inscription from Agen in south-west France provides evidence for a deity Maglomatōnios, ‘Prince-Bear’ or ‘Good Prince’.¹⁴⁴ The text reads **maglomatōnio atto marmorarius u(otum) s(oluit) l(ibens) m(erito)** (*CIL* XIII 915), the dedicatory formula making it clear that **maglomatōnio** is a theonym. It is consequently conceivable that **magalu** in L-79 represents a divinity, “the Prince”, and that the vase is a votive offering. There is perhaps good justification, however, to assume that **magalu** represents an anthroponym, rather than a theonym. The reason for this is simple: if we assume that the vase was not stolen or otherwise lost by its intended owner, it seems decidedly unlikely that an object dedicated to a god should have been used in a funerary context at some distance from the site of its dedication.

The interpretation of the form **sosio** is also somewhat unclear, and perhaps depends on whether **magalu** is understood as an anthroponym or a theonym. Many scholars take it as the direct object of **legasit** (e.g. Eska 2003:2; Schrijver 2007:358), deriving it from a neuter nominative-accusative pronoun **so-sjō-d* with loss of final **d*. As shown in 3.1.2.1, however, the loss of **-d#* cannot be taken for granted in Gaulish, at least as an early development in the language, although since L-79 is relatively late it is conceivable that earlier **so-sjō-d* developed into the attested form. Furthermore, the form **sosin/soosiv** appears to function as the neuter singular nominative-accusative of this pronominal stem in both of its attestations, making it doubtful that there would have been space in the paradigm for an archaic nominative-accusative singular in **-d*. It is possible, however, that Gaulish had separate attributive and substantive forms of the pronominal stem **so-si-* (Schrijver 1997:47–49), the latter being characterised by the thematic vowel, in which case **sosio** may reflect either **so-sjō-d* or **so-sjō-n*, the loss of either final consonant being attributable to the date of the text.

The other possible interpretation, favoured by Isaac (2001:352–53) and also mentioned by McCone (2006:175–76), takes **sosio** as a masculine genitive singular, replacing PIE **tosjō* by generalisation of the nominative stem **so-*.¹⁴⁵ Since the pronominal stem **so-* is generally anaphoric in other Indo-European branches (*LIPP*:2014:2:732ff.), however, it is somewhat

¹⁴³ The dedication reads **DEO APOLINI CUNOMAGLO**.

¹⁴⁴ The roots for ‘bear’, **matu-*, and ‘good’, **matu-/ *mati-* in Gaulish appear to be very similar, possibly due to taboo-replacement of inherited **arto-* < **h₂rtkō-* with **matu-*, ‘good’, cf. OIr. replacement of PIE **u_lk^uos* > PC **luk^uos* ‘wolf’ with *mac tíre*, ‘son of the earth’.

¹⁴⁵ A development clearly paralleled in Celtiberian, e.g. dat. sg. **somui** (K.1.1) < **sosmūi* ← **tosmōi*.

difficult to account for **sosio** appearing prior to its supposed referent, **magalu**.¹⁴⁶ Moreover, the possessive pronouns in the Insular Celtic languages tend to derive from **esjō* rather than **sosjō* (Schrijver 1997:57–58), meaning that we might expect ***buscilla esio** in place of the attested **buscilla sosio** if the phrase contained a possessive pronoun.¹⁴⁷ Isaac’s principal reason for reading **sosio** as a genitive singular are the semantics of the root **leg^h-*,¹⁴⁸ but the word order of the inscription might also support his analysis. It is quite widely thought that the unmarked word order in Gaulish is SVO (Eska 2007a), meaning that if **sosio** is to be read as the direct object of the verb **legasit**, the fact that it has been raised to precede the verb must be accounted for.¹⁴⁹ There is little in the context, however, to suggest that such raising would have been required. If the inscription is indeed a dedication, there is no ambiguity as to what has been dedicated, since the object in question has been inscribed directly. Emphatic raising of the pronoun **sosio**, if it denotes the direct object, would consequently appear to be redundant. Another possibility, however, is that the word order has been deliberately manipulated by the author for stylistic purposes, in order to achieve a chiasmus, with the two proper names at either end of the inscription, the verb at the centre, and the two remaining noun-phrases either side of the verb. With this in mind, the word order ceases to be diagnostic as to the function played by the form **sosio**. Since **sosio** disagrees in form with the possessives found in Insular Celtic, and appears in an interpretatively

¹⁴⁶ Note, though, that no specifically cataphoric pronoun is generally reconstructed for PIE (Lundquist and Yates 2018:2100–2103).

¹⁴⁷ It might also be noted that OIr. *a* ‘his’ < PC **esjō* is proclitic, so we should expect ***esio buscilla**. Given what is said below about the chiasmic nature of the inscription, however, it is possible that the text does not reflect natural Gaulish word order.

¹⁴⁸ Isaac (2001) builds his argument on the not-unreasonable observation that the reflexes of PIE **leg^h-* are generally intransitive, making it unlikely that an inherited form of this root should be transitive. It is possible, however, that **legasit** is a denominal verb to a noun **legā* (> Welsh *lle*, ‘place, situation’), corresponding to or a parallel formation with Welsh *lleaf*, ‘set in place’ < **légam* (reduction of vowels in final syllables, prior to **ā* > **j* (Stifter 2017:1200)) < **légām* (*i*-apocope) < **légāmi*. Although Isaac (2001:351) mentions this possibility in a criticism of Schrijver (1997:105), he does not dismiss the etymology itself, rather focusing on Schrijver’s morphological analysis.

¹⁴⁹ A cautionary note is due here that almost all of the work on Gaulish syntax is by Eska, as most scholars find the material too fragmentary to draw conclusions. Lambert (2003:71) notes a slight tendency towards SV order, but also that Gaulish word order is “assez libre”, as expected of a heavily inflecting language. Eska’s suggestion (2007a:220) that “a pronominal object... typically triggers different syntax in many languages” seems unlikely to apply here. The possible Gaulish examples he provides of this phenomenon (*RIG* *E-2, L-31; *CIL* V 4883) all exhibit enclitic pronouns under Eska’s interpretation. The other attestations of the pronominal stem **sosi-* (G-153, L-13) suggest that it occurred adjacently to the noun it qualified, and given that it is disyllabic and shows no sign of phonological reduction it does not appear to be enclitic.

difficult position for an anaphoric pronoun, we might tentatively say that it is more likely to function as the direct object. The reading of **sosio** as a genitive singular cannot be conclusively excluded, however.

Most authors have suggested that the form **legasit** is an *s*-preterite of some sort, with only Isaac (2001:352) suggesting a subjunctive reading. As has already been seen in the discussion of the putative sound change **-set* > /-sit/, however, there is little evidence to support Isaac's analysis of the form as **leg^h-āse-t*, nor McCone's suggestion (2006:228) that **legasit** is a secondarily thematised *s*-aorist, i.e. **legast* > **legat^s* > **legas* → **legaset* > **legasit**, and both explanations face both phonological and morphological difficulties. Schmidt (1986:167–68), essentially followed by Eska (2003:6), presents the same analysis as McCone, consequently facing the same difficulties. Lambert (2003:139) offers two possible analyses of the form, the first being that **legasit** is a “prét. en -s, peut-être avec particule suffixée”. Presumably he has in mind here the forms **readdas** (L-78), with **-das** < **d^(h)h_{1/3}-s-t*, and **prinas** (L-32), which is generally analysed as reflecting an *s*-aorist built to the apparently generalised nasal present stem **prinā-/*prinǎ-* < PIE **k^uri-né-h₂-/*k^uri-n-h₂-*, i.e. **prinas** < Pre-Gaulish **prinǎ-s-t*.¹⁵⁰ Lambert fails to specify in his discussion of L-79 what the “particule suffixée” *-it* might be, although elsewhere (2003:70) he suggests that it might be “une particule de phrase”, analogous to that responsible for the development of the absolute-conjunct system of verbal inflection in Insular Celtic. This seems highly unlikely, however. Such a particle should have been enclitic to the first stressed component of a phrase, meaning that in this case we would expect to find **buscilla=(i)t*, rather than the attested **legasit**. The other possibility suggested by Lambert (2003:139) – which he attributes to Fleuriot, although without a citation – is to compare **legasit** with MW preterites such as *prinessid*, ‘bought’ < **k^uri-n-ǎ-st-it*. Since a corresponding formation is not attested in Irish, however, and earlier Gaulish attests the forms **readdas** and **prinas**, it is clear that the recharacterisation took place separately in Brittonic and Gaulish, rather than representing a common inheritance.

Schrijver (1997:105) suggests segmenting the form as **leg-ā-s-ti-t*, seemingly with both a 3sg. primary ending **-ti* and a particle **-t*. This particle is presumably to be identified with the **et(i)* he postulates to explain the absolute-conjunct distinction in the Insular Celtic languages, and thus faces the same problems as Lambert's “particule de phrase”.¹⁵¹ The fact that Schrijver apparently treats the form as having a primary ending is also quite remarkable, both in terms of the

¹⁵⁰ The motivation for generalising the present stem is quite clear in the case of this root, and many others with a final laryngeal. The root-aorist **k^uréh₂-/*k^urih₂-* would have produced an idiosyncratic ablaut pattern of Proto-Celtic **k^ureǎ-* (possibly > **k^urēǎ-*)/**k^urī-*, which is so unwieldy as to be apt to replacement.

¹⁵¹ Eska (2007a:221–23) has quite convincingly shown the unlikelihood of Schrijver's theory that the preservation of the sentence particle **-t* in postverbal position is a relic of an earlier VSO stage in Gaulish.

semantics – an inherited primary ending, generally associated with present tense forms, would seem incompatible with an *s*-preterite – and also in terms of his own relative chronology. Schrijver’s account (2007) of the historical phonology of Gaulish, discussed extensively in chapter 3, would have the 3sg. ending **-ti* develop into **-t* by *r*-apocope at an early date, meaning that the remodelling of **legas* > **legasti* would have had to pre-date this development, and then somehow survive *r*-apocope when it occurred. This is falsified by the data, since it is quite clear from the existence of the forms **readdas** and **prinās** that **legasit** represents a later development, presumably to remedy the ambiguity between 2sg. **-as* < PC **as-s*, generalised from PIE **-H_s-s-s* and 3sg. **-as** < Earlier Gaulish **-at^s* < PC **-as-t*, generalised from PIE **-H_s-s-t*.¹⁵² It seems, then, that none of the suggestions deriving **legasit** from either an earlier thematic form or from an *s*-aorist with an enclitic particle can easily be maintained.¹⁵³

At this point, it would seem clear that many of the existing explanations for **legasit** face significant problems, and it appears quite unlikely that the subjunctive interpretation proposed by Isaac is correct, given the lack of evidence for the required development **-(s)et(#)* > *-sit*. Since an interpretation as a subjunctive is not sustainable, an interpretation of the form as a preterite of some sort seems to be necessary, and an explanation found for the ending in *-it* without relying on an ad hoc sound change. As has already been suggested during the discussion of the putative sound change **-set(#)* > *-sit*, above, it seems best to treat this development as a morphological recharacterisation, with an ending *-it* < **-i^het#* (cf. 3.1.2.6 fn. 117 above), the ending of the 3sg. imperfect of verbs in **-i^he/o-*, otherwise seen as the basis for the Gaulish preterite in *-ite/-itu* (Schmidt 1986:177–78; Eska 1990; Eska and Evans 2009:37). Such a development would be well motivated in order to reduce the ambiguity between 2sg. **-(a)s* < **-(H_s)-s-s* and 3sg. **-as** < **-(H_s)-s-t*. Consequently, **legasit** can be interpreted as a 3sg. preterite, and segmented as *leg-as-it* or *leg-ā-s-it*. The former segmentation treats the formation as an *as*-preterite, of the type proposed by Stifter (2009:237–39), whereas the latter treats it as an *s*-preterite to a weak verb in *-ā-*, as suggested by Dupraz (2015:14). There do not appear to be any criteria to allow for a decision to be made as to which of these analyses is correct.

To conclude, an attempt will now be made to draw together the analyses of the individual forms into an overall interpretation of the inscription. In general, this interpretation remains quite close

¹⁵² A comparable development takes place in Vedic, where the 2sg. and 3sg. aorist of synchronically vowel-final roots converge, e.g. 2sg./3sg. *ahās*, ‘went away’ < **h₁e-ĝ^heh₁-s-s/t*.

¹⁵³ The observation that explanations of this form relying on an enclitic particle are unsatisfactory has also been made by Stifter (2009:239), although his suggestion that **legasit** represents an *as*-preterite, recharacterised with the Latin 3sg. perfect ending *-it*, does not seem particularly credible, given the Gaulish nature of the rest of the morphology of the inscription.

to that given by Dupraz (2015), although it differs in a few details. He translates the text as “Buscilla a choisi ceci à Alésia pour Magalos”, taking the verb **legasit** as an *s*-preterite deriving from the root **leg̃-*, ‘sammeln, auflesen’, and **sosio** as its direct object, explicitly saying “D’après cette analyse, le plus simple syntaxiquement est que SOSIO désigne l’objet de LEGASIT” (2015:16). The first of these conclusions seems eminently reasonable, given the fact that interpretations of the inscription which take **legasit** as deriving from **leg^h-* ‘sich (hin)legen’ face the difficulties both of explaining the development from intransitive to transitive semantics, and also why the vase is found at such a distance from the site where it is supposed to have been left. By contrast, the semantics of ‘collect, select’ associated with **leg̃-* allow the geographic disparity between the location mentioned on the inscription and what little is known of its actual archaeological context to be accounted for significantly more easily. It is admittedly conceivable that the vase was moved after its original placement – it may, for example, have been stolen, either from a sanctuary where it was dedicated to a god, or from a grave, if it had been ‘laid’ as a grave good. To assume as much, however, simply in order to be able to read **legasit** as ‘laid, put, set up’ would seem an uneconomical addition of an additional unknown into the history of an already poorly understood object.

The suggestion made by Dupraz that **sosio** is most simply analysed syntactically as the object of **legasit** is less certain. As has already been seen, it is not self-evident that **sosio** can be interpreted as a neuter singular nominative-accusative pronoun, given the attestation of **σοοιυ/sooin** in apparently the same function. There are also obstacles to the interpretation of **sosio** as a genitive singular, however. Consequently, Isaac’s interpretation (2001:352) of **sosio** as a masculine genitive singular pronoun, replacing PIE **tosio*, cannot be excluded, although reading **sosio** as the direct object seems slightly likelier on balance, given the Insular Celtic data discussed above. We thus arrive at a translation of the inscription as either “Buscilla chose this in Alesia for Magalus” or “His Buscilla chose (this vase) in Alesia for Magalus”, the latter of which represents a slight modification of Dupraz’s reading, and conclude that the form **legasit**, although interesting and controversial, offers no evidence for the reconstruction of the Proto-Celtic subjunctive.

4.1.1.4 **lustas**

This form appears in a two-word inscription on the reverse of a fragment of plate from La Graufesenque, which reads **lenos lustas** (see appendix). The obverse contains a list of names of potters and the wares they had sent to be fired (a “firing-list”), and a few traces of the numerals denoting how many of each item had been sent. Given that the height of activity at La Graufesenque was during the second half of the first century CE, the pieces can be reasonably dated to that period (Marichal 1974:86). Marichal’s interpretation of this inscription (1974:105–7), as well as the similar L-34, **elenos lilous**, takes all four words as anthroponyms. Lambert (*RIG*

II.2:120) clearly rejects this interpretation in his derivation of **lustas** from a *s*-subjunctive with a following enclitic particle. Objections to this analysis have already been raised in the discussion of syncope in Gaulish (3.1.2.5), rendering it doubtful that **lustas** is a subjunctive. Here, some additional pragmatic factors are considered alongside a recapitulation of the phonological difficulties faced by Lambert's etymology, leading to the conclusion that it is highly unlikely that **lustas** reflects a 3sg. subjunctive **lux-se-t=as*. Lambert suggests etymological connections between **lustas** and the forms **luxtos**, 'batch (of pottery)' (several times in La Graufesenque, *RIG* II.2:85–91), derived from **lug^(h)-to-*, and **lilous** (*RIG* L-34), which he follows Schrijver (2007:368) in deriving from **lilough^s-(et)*,^{154,155} a reduplicated *s*-future with loss of the final syllable. This latter etymology has already been seen above to be quite untenable, since it rests on a doubtful relative chronology of Gaulish sound changes. The fact that **lilous** can no longer reasonably be considered part of a finite verbal paradigm with **lustas** serves to undermine somewhat the identification of **lustas** itself as a verbal form, an identification anyway beset with phonological difficulties.

A more pragmatic objection to Lambert's interpretation is that if the identification of **lustas** and **lilous** as subjunctive and future tense forms were to be upheld, they would be anomalous among the verbal forms found at La Graufesenque. It is noteworthy that almost every verb firmly identified in the corpus from this site is a Latin perfect tense, and all verbs pertaining to loading and operating the furnaces are perfect tense indicative forms. The relevant examples from Marichal's (1988:277) index of forms are: **oneraui** (no. 47); **onerauij** (nos. 48, 70); **one]rauit**

¹⁵⁴ The spelling <*s*>, in place of <*xs*> for the sequence /*χs*/ is readily paralleled in other forms from La Graufesenque, e.g. **parasidi** vs. **paraxidi** (Marichal 1974:95), although it is unclear whether this reflects a real sound change /*χs*/ > /*s*/ (Stifter 2013:118). Alternation between <*s*> and <*x*> is attested in the doublet **aberxtobogii** vs. **abrestobogiu** at Chartres (Lambert *apud* Viret et al. 2014:19).

¹⁵⁵ Lambert (*RIG* II.2:120) gives the reconstruction "**lilough^s-(et)*", implying a root-final voiced aspirated stop. The only attested Indo-European root of the shape **leug^h-* (*LIV*²:417) means 'lie', however, and is found as a verb only in Balto-Slavic (OCS *лѣžь*, 'I lie' ← **lug^h-jē/o-*) and Germanic (Gothic *liugan*, 'to lie'); in Celtic it is found only in OIr. *luige*, W llw, Br. *le* 'oath' < **lug^hijom*. Presumably Lambert actually means either **leug-*, 'lösen, brechen' (*LIV*²:415) or **leu^(g)-*, 'biegen' (*LIV*²:416). The second of these has several Celtic cognates, and forms an *s*-subjunctive in OIr., e.g. 1sg. rel. *fo-llós*, 'that I endure' (ML.62b12), making it a reasonable candidate as a cognate of **lustas**, at least from a formal perspective. If we follow Schumacher (*KPV*:460), who suggests that the Proto-Celtic semantics of the root **-lu-n-g-e/o-* were 'setzen, legen, stellen', there is also a reasonable semantic match with the Irish attestations of the root.

(no. 72); **on[eravit]** (no. 73); **onera[** (no. 76); **one[ratu]s** (no. 66);¹⁵⁶ **incepti** (no. 83).¹⁵⁷ Other than these, there are also two instances of 3sg. present indicative *dat*, ‘gives’, both in the same fragment of a firing-list (Marichal 1988:223, no. 164). In this case, the verb appears between the name of the potter and the wares they gave, indicating that this is just an elaboration of the normal structure of the lists at La Graufesenque, in which the verb ‘gives’ is generally elided. Subjunctive and future tense forms, however, are unparalleled. Although this cannot conclusively exclude the possibility that such forms should be found, we should at least be led to be suspicious of the interpretation of the forms **lustas** and **lilous** in this way, particularly given the lack of further contextual indications as to their semantics.

Finally, there are quite compelling phonological reasons to reject Lambert’s analysis. It was noted above that the forms **lustas** and **lilous** are likely to be dated to the latter half of the first century, so we should perhaps expect them to be more phonologically conservative than forms from the later texts, such as L-79, L-93 and L-101. As Schmidt (2001a:359) has already pointed out, several problems remain unclarified by Lambert’s etymologies, and particularly problematic are the loss of the medial syllable in **lustas**; the loss of the final syllable in **lilous**; and explaining pragmatically why these forms should be in the subjunctive and future, respectively. It has already been seen that, from a pragmatic perspective, an interpretation of these forms as subjunctive and future is unlikely, given the broader context of the verbal forms attested at La Graufesenque. Furthermore, based on the discussion above of the sound changes affecting Gaulish (3.1.2), deriving **lilous** < **li-leug-s-et(i)* seems untenable. If we work from a primary ending **li-leug-s-eti*, we should expect to find Gaulish ^x*lilouχset*, by apocope of final *-ī. From a form with a secondary ending, **li-leug-s-ed*, we might instead expect to find ^x*lilouχse*, if we assume late loss of *-d#, or simply ^x*lilouχsed*, if retention of *-d# is assumed. Since a derivation of **lilous** from **li-leug-s-et(i)* is unlikely from either of the possible preforms, the reading of **elenos lilous** as containing a 3sg. future form should be abandoned. This would, at the very least, remove the parallelism proposed by Lambert between the sequences **elenos lilous** and **lenos lustas**. Without this parallel, the interpretation of the latter form as a subjunctive is very difficult to sustain, given that it relies on an ad hoc syncope law that has been seen (3.1.2.4.2) to be virtually unparalleled in Gaulish.

¹⁵⁶ The form **one[ratu]s** has no corresponding auxiliary verb, but there is no reason to assume that it would be anything other than *est*.

¹⁵⁷ The complete line is: **]hres incepti furnus pri[mus]**. The ambiguous form **emit** (no. 211) – either *ēmit* or *ĕmit* – has been excluded here, since it is from a document recording the purchase of a slave, rather than a firing list. Similarly excluded are **fecit** (no. 174), in a craftsman’s signature; and **soluit** (no. 171), from a piece too fragmentary to determine the document type, but considered by Marichal (1988:228) more likely to be transactional than a firing list.

The contexts in which **lustas** and **lilous** are found are vital to their interpretation, and since both Marichal and Lambert have treated these forms together due to the fact that they appear to be in the same scribal hand, the same approach will be taken here. As mentioned already, the immediate context of **lustas** is a two-word inscription on the reverse of a list of names and wares. The piece is sufficiently intact that it is clear that there were no other words near to the series **lenos lustas**. The form **lilous** is from a similar context, although the fragment is smaller, and a break directly to the right of both **elenos** and **lilous** may have contained further text or numerals. In both cases, the forms **elenos** and **lenos** appear to be personal names, since the sequence **Jlenos** appears in the list of potters on the obverse (Marichal's 94a). Given that the documents are written in the same hand, they may even represent the same name, possibly Greek Ἐλενος. The fact that the name is misspelled in L-33 can be attributed to haplography: in the cursive at La Graufesenque, <l> is very similar to the first half of <e>.

The broader context of both pieces is that of record-keeping at La Graufesenque. It is notable, then, that it is quite atypical of the site for there to be writing on the base of a plate: this only occurs in two artefacts other than these, Marichal's numbers 46 and 74 (1988:166–68; 182–83). In the latter case, the obverse is densely covered with text, making it likely that the scribe simply ran out of writing space and resorted to using the reverse. Marichal's number 46 is less densely inscribed on the obverse, but perhaps the scribe again turned the plate over upon running out of space. The writing on the reverse – **prinās sibū** | **[[ta]] tudus** – is in fragmentary Gaulish, and cannot readily be interpreted. Although some scholars connect **prinās** with Welsh *prynu*, Irish *crenaid*, 'buy', Lambert (2003:135) suggests that it might instead be an adjective describing a type of pottery. In all other cases when marks are found on the base of a plate, namely the first twenty-five items in Marichal's catalogue (1988:114–53), they are craftsman's marks of various sorts, on one occasion (no. 23, Marichal 1988:150–51) accompanied by a few letters. The sequences **lenos lustas** and **elenos lilous** could consequently be simply the signature of a particularly literate craftsman. If the forms are taken as onomastic, both sequences could quite easily be interpreted as a personal name in the nominative followed by a patronym in the genitive. The form **lustas** could be a masculine *ā*-stem genitive in **-ās*, while **lilous** could be derived from a *u*-stem genitive, with PIE **-eṷ-s* > PC **-ou-s*. A parallel to this onomastic formula is attested in *RIG* L-23, where the potter Sacrillos signs his name **sacrillos carati** three times, **carati** being taken by Lambert (*RIG* II.2:64) as "gén. sg. du nom de son père, *Caratos*".

A further possible interpretation might be found if it is noted that, based on the photographs published by Marichal (1974), L-33 may have been inscribed after firing. The letter shapes in L-33 appear to be more angular and formed with more difficulty than either the obverse of the same plate (Marichal 94a) or L-34 and its obverse (Marichal 96a/b): the grapheme <s> is less curved

than in the other graffiti in this hand, and similarly the strokes of the cursive <e> are both quite angular. If **lenos lustas** was written after firing, there appears even less reason to take the form as a subjunctive, since the action to which it would refer, ‘loading (the furnace)’ would be in the past, but it is possible that **lustas** could then be interpreted as a preterite participle, i.e. **lug(s)-to-/-tā-*, comparable to **luxtos**, ‘*oneratus*’. The sequence <e>**lenos lustas** might then be taken as the signature of the potter, followed by the statement “*onerati/ae [sunt]*”. The syntax of the sequence would be difficult to parse if read this way, however, since **lustas** appears not to agree either with <e>**lenos** or with the wares listed on the obverse, which are largely *o*-stem masculine plurals. Both **lustas** and **lilous** seem better analysed as nominal forms than as verbs, however, even if the specifics of their semantics remain elusive.

It would seem highly unlikely, then, on both pragmatic and phonological grounds, that **lustas** represents a subjunctive **leug-s-et=as*. Although the interpretation of these forms remains unclear, and for reasons of space cannot be discussed further here, the fact that **lustas** would be the only subjunctive in the corpus from La Graufesenque in itself makes such an interpretation unappealing. The additional fact that one must assume phonological developments with very little basis in the available data should lead us, in the absence of additional information, to disregard Lambert’s interpretation of this form as a subjunctive, and **lilous** with it as a future tense form.

4.1.1.5 redresta

This form, already discussed during the analysis of the evidence for syncope in Gaulish (3.1.2.5), is interpreted by Lambert (*RIG* II.2:148; see appendix) as an *s*-subjunctive **ro-dreg-s-et=as*, corresponding with the subjunctive of OIr. *dringid*, ‘climbs’, e.g. 2sg. abs. *dreisi* < **dreg-se-si*. As was shown in 3.1.2.5, it appears unlikely that syncope was a regular sound change in Gaulish, making Lambert’s analysis difficult to maintain. Moreover, PIE **dreg^h-se-* would be expected to yield Proto-Celtic, and thus Gaulish, **drexse-*, where the sequence /χs/ would generally be expected to be retained intervocalically, although it does appear that at times only <x> or <s> was written, rather than <xs>, e.g. **rexetesi**, probably < **reg-se-*; also doublets such as **parasides/paraxides** at La Graufesenque. In terms of its context, the form is found on a fragment of a plate, L-49, which reads **]redresta inuertamonnantou**.¹⁶⁰ In the photo from the excavation report (Pauc 1972, Planche VII), there are clear traces of two further letters in the break to the left of **redresta**, and based on comparison with other letter shapes in the inscription we might read **atredresta** or **diredresta**. It is thus not even entirely clear that **redresta** is a complete word,

¹⁶⁰ Marichal (p.c. *apud* Pauc 1972:202) reads ... **redresta | inuertdaunnantou**. Lambert’s sequence **mo** (= Marichal’s **au**) is very faint in the published photograph, making both readings uncertain.

rendering any interpretation of it speculative, at best. Although we can be reasonably sure that the text ends after the sequence **inuertamonnantou**, it is not known how much material has been lost prior to **redresta**, leaving the broader context of the form entirely unknown. Consequently, reading the form as a verb assumes that the preserved text is at least the majority of a complete syntagma, rather than simply being the final section of a longer phrase.

If, for the sake of argument, **redresta** is taken as a verbal form, it is unlikely to be a subjunctive, given the objections already outlined to a rule of syncope in Gaulish. It is worth considering briefly what other options there are for the interpretation of this form. Schmidt (2004:255–56), while accepting Lambert’s reading, segmentation, and translation of the sequence **inuertamonnantou**, has suggested that **redresta** might reflect a 3sg. *s*-preterite **pro-d^hreġ^h-s-to-som*,¹⁶¹ presumably with the ending **-to* indicating a medio-passive form, and offers the translation “er ist auf ihn (**-som*) hinaufgestiegen, auf den Gipfel des Tales (mit Gen. *nantou* < **nantous*)”. This is a phonologically viable explanation of the stem of this form, if it is accepted that PIE **VTsTV* > PC **VsTV*, cf. **tepstus* > **teχstus* > **testus* > OIr. *tess*, MW *tes*, ‘heat’ (Stifter 2017:1191). We might also expect the resulting cluster **-st-* to develop into Gaulish /t^s/, written <đ>, although this development is not always represented graphically. Schmidt concedes (2004:256), however, that he cannot explain the development **-to* > **-ta**, which somewhat weakens his interpretation. The interpretation he offers is more critically compromised by the assumption that it contains an enclitic pronoun **som* which leaves no surface trace, i.e. **pro-d^hreġ^h-s-to-som* > *re-dres-ta-∅*. It seems highly unlikely that a native Gaulish speaker would analyse the form **redresta** in this way, given that this implies that any transitive verb could have a direct object \emptyset < **som*. Furthermore, if Schmidt does mean to reconstruct a medio-passive form **pro-d^hreġ^h-s-to*, it is anyway not at all clear why this form would take a direct object **som*, since presumably the sense of the verb in the medio-passive voice could be “he climbed”, without requiring a direct object. Such an emendation from **pro-d^hreġ^h-s-to-som* to simply **pro-d^hreġ^h-s-to* might make Schmidt’s analysis somewhat more tenable, but the development **-to#* > **-ta** remains essentially unparalleled. Ultimately, **redresta** remains resistant to analysis, but both treatments of the form as a verb to date face quite serious difficulties. The form could even be nominal, since the ending **-a** could easily be the feminine nom. sg. **-ā* < **-eh₂* or neuter nom.-acc. plural *-ǎ* < **-h₂*, and a suffix in **-t-** might indicate the presence of a verbal noun.

¹⁶¹ Sic, Schmidt (2004:255), apparently deriving OIr. *dringid* from PIE **d^hreġ^(s)h-*, ‘schleppen, ziehen’ (*LIV*²:154), rather than **d^hreġ^h-*, ‘festhalten’ (*LIV*²:126), *contra* *KPV* (285).

4.1.1.6 *scrisumio*

This form is one of two possible subjunctives found in the (pseudo-)Gaulish incantations in Marcellus of Bordeaux's *De medicamentis*. There are numerous problems in the interpretation of the Gaulish material included by Marcellus. First, his dates are not known for certain, although it seems likely that he lived from the second half of the fourth century into the first quarter of the fifth.¹⁶³ It is certainly possible that Gaulish was still spoken at this time, particularly if Schrijver's dating (2001:135) of the Châteaubleau tile (*RIG L-93*, see 4.1.1.2) to as late as the fourth century is to be taken seriously. Furthermore, that Marcellus recognises some words as being Gaulish in origin at least suggests that the language was still in use, as noted by Adams (2003:195). The idea that Marcellus, as a member of the Roman elite in Gaul, spoke Gaulish himself can by no means be taken as a certainty, however, so there could have been some corruption of his Gaulish quotations already at the point of writing. Marcellus claims (Prol.2) to have collected remedies "*ab agrestibus et plebeis*", suggesting that he directly notated what his Gaulish sources had said, but if his understanding of the language was imperfect, misinterpretations could have taken place here.

It should also be noted, as Adams (2003:193–94) points out regarding other quotations in Marcellus, that the magical context of the form *scrisumio* introduces further difficulties. Magical formulae in the ancient and late antique world are often seen to mix forms from different languages available to the speaker, as in the Oscan-Latin mixed *defixio* cited by Adams (2003:127–28). Magical speech can also be seen to use forms with no real meaning in the language of the speaker, as in English *hocus-pocus* or *abracadabra*, and linguistic forms in magical contexts often undergo a process of "magicalisation", intentionally making them less transparent (Blom 2009:16–19). This could mean that, even if Marcellus accurately recorded what was said to him, the Gaulish elements in the charms may have already been corrupted.

Finally, there is the problem of the text's transmission. It is preserved in only three manuscripts, all from the ninth and tenth centuries, one of which only contains excerpts from Marcellus (BL Arundel MS 166), meaning that only two preserve the section containing the form *scrisumio* (BNF Latin 6880 and Bibliothèque Municipale de Laon, MS 420). Although the readings of these two manuscripts are apparently quite consistent in the passage in question here, it is thought that they both follow a common archetype (Niedermann 1995:XVII). The lack of other sources for the

¹⁶³ His political activity is datable to the turn of the fifth century. Two references to a Marcellus are found in the *Codex Theodosianus*, at VI.29.8 (dated to May 395) and XVI.5.29 (24th November 395), as *magister officiorum*, a title by which he also refers to himself in the dedication of *De medicamentis* (Prol.1: *Marcellus vir inluster ex magistro officiorum Theodosii sen. filiis suis salutem d.*). As Cameron (1967:11) notes, in the same dedication he calls Theodosius I '*sen(ioris)*', implying that he was writing after Theodosius II acceded in January 408, providing a *terminus post quem* for his death.

text consequently means that we cannot know to what extent the formulae and forms originally cited by Marcellus were altered between the period of his writing and the creation of the archetype of these manuscripts.

That being said, there are factors to commend a subjunctive interpretation of *scrisumio*. It is found in a spell for the relief of blockage of the throat. The context is the following, with the text following Niedermann's edition (1995:266):¹⁶⁴

*Item fauces, quibus aliquid inhaeserit, confricans dices: xi exvcricone xv
criglionaisus (Laon: criglionalsus) scrisumiovelor exvcricone xv grilav.*

“Likewise, rubbing the throat in which something has become stuck, you should say: ...”

(*De medicamentis*, XV.106)

Much about this spell is unclear, and this has not been helped by the scribal tradition: the scribe of BNF Latin 6880, where the spell is found on the final line of f.65r, has placed puncta around the sequences written <xi> and <xv>, indicating that he had interpreted these as numerals, although it is by no means certain that they were not lexical in the original text, as suggested in a number of earlier interpretations of the formula (e.g. Must 1960).¹⁶⁵ A fairly recent study of the evidence for Gaulish in Late Antiquity (Blom 2007) has also examined a number of the problems in the interpretation of this spell, as well as a number of the previously suggested etymologies for *scrisumio*, several of which analyse it as a verbal form. Briefly to summarise Blom (2007:78–80), the previously suggested interpretations and etymologies are: **(s)crisu*, ‘rowan berry, uvula’, i.e. **krisū* < **krsōj* (Haas 1949:52–53); **scri su*, 2sg. imperative ‘jump up’, (Vetter 1957:274–75) < PIE **(s)ker-*, ‘jump’ (*LIV*²:556); **scri*, 2sg. imperative ‘remove, separate’, (Must 1960:196) < PIE **(s)ker-*, ‘shave, cut off’ (*LIV*²:556–57); **scrisū*, 1sg. subjunctive ‘I (would?) flee’ (Pisani 1963:50) < PIE **skrejt-*, ‘im Kreis gehen’ (*LIV*²:563); and **krissū*, ‘by rubbing, massage’ (Meid 1996:61–62), without clear etymology, but compared by Meid to a (seemingly unattested) Mir. verb *cressaim*, ‘I shake, swing’ (possibly *cresaigid*, ‘shakes, brandishes’, cf. *eDIL*: s.v.). Blom (2007:100–102) is understandably sceptical of the possibilities of isolating truly Gaulish material in Marcellus’ incantations, and I am inclined to agree with him (2007:102) that it is indeed possible, or even

¹⁶⁴ Niedermann prints the Gaulish incantations in upper case, a practice not reflected in the manuscript I have been able to see (BNF Latin 6880). Here I take the liberty of printing the Gaulish in lower case.

¹⁶⁵ I have been unable to access images of BM Laon MS 420 to inspect how the scribe treats the sequence there, and Niedermann’s edition provides little information about the segmentation of the text in either manuscript, other than that both manuscripts treat the second instance of EXUCRICONE XV as EXUGRI CONEXU (Niedermann 1995:266).

likely, that any Gaulish forms were only used as *voces magicae* (2007:88–90), intended to sound magical due to their incomprehensibility, without any significant understanding on the part of Marcellus' sources. Nonetheless, it is possible that some genuinely Gaulish material is preserved in the charms in *De medicamentis*, if only as formulae not understood by Marcellus and his sources. We will consequently proceed tentatively on the assumption that there may be Gaulish material preserved here, and attempt to analyse what it may be.

While acknowledging the other interpretations of this form listed above, the study of most interest here is that of Fleuriot (1974), where he isolates and segments the middle of the formula as *aisus scrisumio velor*, translating “Ésus, je veux cracher!”. It should be noted that, at least on the basis of BNF Latin 6880, Fleuriot is reasonably justified in segmenting *scrisumio* and *velor*: the scribe leaves a space between the two forms of more or less the same size as divides words elsewhere in the text. Fleuriot's interpretation also fits the context described by the Latin introduction to the charm in a rather attractive way. He identifies *aisus* with the deity name Esus or Hesus, the former spelling known from a Gallo-Roman altar (*CIL* XIII 3026) depicting Esus alongside a number of other gods, while the latter is found in Lucan's *Bellum Civile* (I.445), in a description of non-Roman peoples and their deities.

Fleuriot then suggests that *scrisumio velor* should be treated as a pair of verbs. The second of the two, *velor*, is interpreted as a 1sg. deponent or medio-passive present indicative from the root **uelh₁*- ‘(aus)wählen’ (*LIV²*:677–78), cf. Gothic *wili*, Latin *uult*, *uelim*. The form *scrisumio* is taken to represent **scrisumi=jo*, a 1sg. active verbal form containing the ending *-ūmi*, followed by the enclitic relative marker seen also in **duǵiǵiontió** (L-13, 4) and **toncsiǵiontió** (L-100, 8). The verbal root is more difficult to identify than that underlying *velor*. Lambert (2003:179) suggests that its only cognate is the OIr. verbal noun *scris* < **sk̑rt-tu-*, ‘act of scraping/destroying’, but Delamarre (*DLG*:268) also suggests an OBr. cognate *scrutiam* < **screitami*, which glosses Latin *scrĕo*,¹⁶⁶ ‘I spit’ (Bodleian MS. Auct. F. 4. 32, f.3v). A MIr. verb *sceirtid*, ‘squirts, spurts, vomits’ is also attested (*eDIL*: s.v. *sceirtid*²), which would correspond semantically with both the Breton form and Fleuriot's suggested meaning of *scrisumio*. A root ending in a dental consonant would also be expected to form an *s*-subjunctive in Irish and Brittonic, corresponding reasonably well with the Gaulish form.

Although a root of the approximate shape **skrT-* could consequently be reconstructed for Proto-Celtic between the Irish and British forms, as well as possibly Gaulish *scrisumio*, the vocalisms of the Irish forms, on the one hand, and the Breton and Gaulish, on the other, are difficult to

¹⁶⁶ In pre-mediaeval Latin, the word is apparently hapax legomenon as the participle *screanti* in Plautus' *Curculio*, 1.2.22. Here, it is cited here from a list of Latin words in *-ĕo* in a mediaeval locution textbook.

reconcile. Irish *sceirtid* reflects PC **skerd-(j)eti* (KPV: s.v. **skerd-*), whereas a root of the shape **skrej̥T-* is required to account for OBr. *scruitiām*, since Proto-Celtic **skrej̥T-* > Proto-Brittonic **skrēT-* > OBr. *scruit-* would be phonologically regular. Proto-Celtic **skrej̥T-* could also underlie Gaulish *scrisumio*, either by assuming generalisation of the \emptyset -grade, **skriT-*, or by extension of the \bar{e} -grade from the *s*-aorist to the subjunctive, with Gaulish **scrīs-* < Proto-Celtic **skrī̃T-s-* < Quasi-PIE **skrē̃T-s-*. It is also possible that *scrisumio* is simply a misspelling of an earlier **scrēsumio*, which would be the expected outcome in Gaulish from Proto-Celtic or Proto-Indo-European **skrej̥T-s-*.

In fact, it may be possible to unite Irish *sceirtid* with the Breton and Gaulish forms. Both possible roots, i.e. **skerd-* (> Mlr. *sceirtid*) and **skrej̥T-* (> OBr. *scruitiām*, Gaulish *scrisumio*), would have had **skriT-* as their \emptyset -grade in Proto-Celtic, since a putative PIE **skṛT-* would regularly yield Proto-Celtic **skriT-*. Alongside *sceirtid* 'squirts, etc', there is an additional verb of the form *sceirtid* in Irish, meaning 'strips, peels, scrapes off' (*eDIL*: s.v. *sceirtid*¹), to which the form *scris*, discussed briefly above, is the verbal noun. If *eDIL* (s.v. *sceirtid*²) is correct in suggesting that both of these verbs could in fact be the same word, then there is positive evidence for the existence of the \emptyset -grade **skrid-tu-* in Irish. The semantic gap between 'scrape' and 'spit, vomit', while inconvenient, is perhaps not insurmountable: English 'hack' as meaning both 'chop' and 'cough repeatedly' provides a reasonable, if not perfect, parallel, and it is also quite possible that the roots are onomatopoeic.

There are consequently two possibilities: either Irish has retained the earlier contrast between *e*-grade **skerd-* and \emptyset -grade **skrid-*, or it has innovated by replacing an inherited **skrej̥d-* with **skerd-*. Looking beyond Celtic for comparanda, it seems that the former scenario should be preferred, since forms such as Latin *scortum* < **skor-to-*, 'skin, hide' ← 'cut thing, scraped thing?' indicate that the PIE root did not contain **-j̥-*. It would seem, then, that this entire complex of Celtic words can be ultimately derived from one of the Indo-European roots **(s)ker-*, 'scheren, kratzen, abscheiden', **skerd^(h)-*, 'schneiden, stecken', or **(s)kert-*, '(zer)schneiden' (*LIV*²:556-60). As a final observation, one might consider the possibility that in Proto-Celtic already, the *e*-grade root **skrej̥d-* had been created due to reanalysis of the ambiguous \emptyset -grade **skrid-*, and existed in competition with **skerd-*. This would allow us to account for both the Breton and Gaulish forms without the assumption that the same reanalysis had taken place in both languages independently.

Even if this etymology is naturally somewhat speculative, there is also a reasonable syntactic argument to be made for a subjunctive interpretation of *scrisumio*. If Fleuriot's interpretation is correct, it appears that the enclitic relative particle **=j̥o* developed a further function as a subordinating conjunction by the time of writing of *De medicamentis*. The development would be

typologically similar to that of the Modern German subordinating conjunction *dass*, '(so) that', formally identical with the relative pronoun *das*, 'that'. This would make **scrisumi* the verb in a subordinate clause indicating result or purpose, dependent on the main verb *velor*. In the Insular Celtic languages, subordinate clauses of result or purpose frequently have their verb in the subjunctive, as in the following:

... *yn i gylch i byδ llety y teuly **mal y bwynt barod** ymhob raid.*

"... around it [the chief of the household's lodging] will be the lodgings of the household **so that they may be ready** for every need."

(*LP*:§71)

'*Dommáirse*', ol Fráech ri Conall, '**co ndichis** lemm nach ré ó conarnecmar.'

"'May it befall me', said Fráech to Conall, '**that you should come** with me whenever we met.'"

(*TBF*:§26)

Although the use of the subjunctive in such contexts may have been an innovation of the mediaeval Celtic languages, it is at least worth contemplating that such a usage was an inherited feature from Proto-Celtic. If the text is taken as representing genuine Gaulish, therefore, *scrisumio* provides a good formal match for an *s*-subjunctive, and quite possibly has etymological connections with forms in Irish and Brittonic. The Irish and Brittonic forms also seem to be related, even if *scrisumio* cannot be said for certain to belong to the same family of words. In conclusion, we might tentatively say that *scrisumio* represents a 1sg. present *s*-subjunctive, with an enclitic relative suffix, possibly in the function of a subordinating conjunction.

4.1.1.7 **sesit**

This form, from the Chamalières tablet (L-100, 8), lacks an established etymology, and even its reading is not entirely agreed upon. While many scholars read the relevant sequence as **ponc sesit**, and *RIG* prints **poncse sit** (II.2:270), Lambert (2003:159) reads **toncsesit**, comparing this form with the *figura etymologica* **toncnaman toncsiíontío**, 'the oath that they will swear(?)' (L-100, 7-8). There appears to be a slight gap between **se** and **sit** in both the photo and drawing in *RIG* (II.2:271), leading to the reading there. Letter-spacing in the text is quite irregular, however, and the space between **se** and **sit** is smaller than most of the certain word-spaces in the text, so **sesit** can reasonably be read as a single word. Having noted the difficulties of reading this sequence, the reading **ponc sesit**, adopted by Fleuriot (1976) and Delamarre (*DLG*:252, 272), will be followed here, albeit cautiously. This is due to the fact that in the published photo (*RIG* II.2:271) the shape of the letter in question seems somewhat more akin to the established instances in the text of the grapheme <**p**> than those of <**t**>.

Formally, **sesit** resembles a verb conjugated in the 3sg. with an ending in *-t*, and the presence of /s/ before the desinence led Fleuriot (1976:185) to propose an etymology **sed-s-it*, suggesting that it might be the future or subjunctive to the root **sed-*, ‘sit’. The interpretation as a subjunctive is followed by McCone (2006:228), although he provides no further information as to the etymology of the form. Other etymological suggestions have been offered by Schmidt (1981:265) and Henry (1984:147), both of whom interpret the form as an *s*-aorist. Lambert (*RIG* II.2:279) interprets the sequence **sit** alone as a verbal form, glossing it with “soit, sera”.¹⁶⁸

Unfortunately, the broader syntactic context does not provide much assistance in discriminating between the two proposed interpretations of the form **sesit**. Most notably, it immediately follows the form **ponc**, which has generally been interpreted as the conjunction ‘when, if’ (e.g. Schmidt 1981:265; Henry 1984:147). As with the form **ponj**, mentioned above in the discussion of the form **gabxs** (*RIG* L-101, A3), this conjunction appears to derive from the Proto-Indo-European indefinite-interrogative pronominal root **k^ui-/k^uo-*. The etymology offered by Delamarre (*DLG*:252) is **ponc** < **k^uom-k^ue*, i.e. the masculine accusative singular of the indefinite-interrogative pronoun, followed by the connective clitic **-k^ue*. Although this conjunction lacks direct cognates in other Celtic languages, the Brittonic conjunction *pan*, ‘when’, provides a reasonable functional and formal correspondent, and can in fact be derived from Proto-Celtic **k^uam*,¹⁶⁹ which would be identical with the feminine singular accusative form of the same

¹⁶⁸ Presumably reflecting the PIE optative **h₁s-*jéh₁-t* > PC **s_jīt*, cf. OLat. *siet* > *sit*. Although **s_jī-* > **sī-* by homorganic glide loss is *prima facie* credible, evidence for this development is hard to find. **difiuion** (L-100, 1) might be counterevidence, if interpreted as an adjective **d_jēu(i)ios* from PIE **d_jéus*, ‘day, god’. **difiuion** cannot simply reflect **de_ju-* (> OIr. *día*, OW *diui*), which would yield Gaulish **dēu-* < **deu-**, and PIE **d_jēu-* would probably yield **d_jou-*. Lambert’s suggestion (*RIG* II.2:275) that <**íi**> denotes /ī/ is hard to accept, since elsewhere in L-100 <**í**> frequently represents /ī/ or /iī/, only clearly representing /ī/ in the cognomen **nigrínon**, and perhaps **pissíumí**, if **-mí** < **mē*. It seems better to interpret **difiuion** as /d_jīū(i)ion/ < **d_jēu-*, suggesting that the Gaulish reflex of **C_jī-* was **C_jī̄-*. The environment in **h₁s-*jéh₁-t* is not identical, but it would be reasonable to expect Gaulish **s_jī̄t*, rather than **sit**.**

¹⁶⁹ PIE **k^ueh₂m* > Pre-Proto-Celtic **k^uām* > Proto-Celtic **k^uam* (** \check{V}* > ** \check{V}* / *_N(C)#*) > **k^uan* (**-m#* > **-n#*) > *pan* (**k^u* > **p*). This is surely a more formally compelling etymology than the **k^uani* offered by *GPC* (s.v. *pan*¹), presumably following *CCCG* (230), and is supported by similar developments, e.g. Latin *cum*, ‘when’ < **k^uom* (masc. acc. sg.). Although **k^uani* would yield the attested forms, it is difficult to explain the intrusive **-n-* before what is presumably loc. sg. **-i*: the expected form would be PIE **k^ueh₂i* > Early Proto-Celtic **k^uāi* > PC **k^uai*. We might assume that the oblique stem was remodelled after the accusative following the change **-m#* > **-n#*, but by then it is unlikely that the locative was still a functional category. We might also consider deriving OIr./Mlr. *co^N*, ‘(so) that, and, until’ from the same form: **k^uam* > **k^uan* (**-m#* > **-n#*) > **k^uon* (**a* > **o* / *#K_u_*) > **kon* (**k^u* > **k*) > *co^N* (shifting of final **-n/*-h* to following word).

pronominal stem. In MW, *pan* as a simple conjunction can be used both with indefinite reference, with the subjunctive, and with past temporal reference, with the preterite tense. Examples are the following:

...; a'r neb a laddo i wr yn i wydd ac yngwydd i wyr, pan vo ymarvoll a chymanva y rryngtho a phenaeth arall; ...

“and whoever kills his man in his presence and in the presence of his men, **when there is** a treaty and assembly between him and another chief [causes *sarhaed* (insult, indignity) to the king]”

(LP:§9)

A phan doeth yno, yd oed Arawn urehin Annwyn yn y erbyn.

“And **when he came** there, Arawn, king of Annwn, was waiting for him.”

(I. Williams 1930:6 lines 16-17)

It would seem possible that Gaulish **ponc**, if it has been correctly interpreted as the conjunction ‘when’, could have similar syntactic properties, and consequently have been used to introduce a sentence with its verb either in the subjunctive or the preterite. Consequently, it appears that formal criteria must be relied upon to determine whether **sesit** is a subjunctive or a preterite.

4.1.1.7.1 Subjunctive interpretations

Analyses of the form **sesit** as a subjunctive (Fleuriot 1976:185; McCone 2006:228), just as those of **legasit** as a subjunctive in **-ase-* or secondarily thematised *s*-aorist, suffer from the lack of evidence for a development **-set > -sit*, already discussed. A few other objections will briefly be noted here. In the first instance, the spelling conventions of the text militate against the dental-final root supposed in Fleuriot’s etymology. If the underlying form were **sed-s-*, the expected development would be to ***sess-**, with a geminate /ss/, rather than the single /s/ suggested by the spelling. One might appeal to orthographic error to explain the absence of a spelling ***sessit**, but this is belied somewhat by the rest of the text. Geminate /ss/ is found in several other forms on the Chamalières tablet, e.g. **pissíiumí** (line 10), **bissíet** (line 11), **dessumíis** (twice, line 12). Similarly, geminate spellings of <đ>, denoting the affricate /tʰ/, are also found in the forms **sníeddíic** (line 3) and **addédillí** (line 7), suggesting that the scribe took some care over geminate spellings of affricates. This would lead us to expect a geminate in the form **sesit**, also, if it were required. There is, admittedly, variation between the spelling **dessummiíis** (line 11) and the spelling with single <m> found in the following line, which leaves some scope for doubt as to how consistently the scribe would have discriminated between single and geminate consonants. Nonetheless, the general tendency in the inscription is clearly towards writing geminates where required, rather than not.

Since there appears to be no phonologically viable derivation of **sesit** from a subjunctive in *-se-, we must consider other possible analyses. It is perhaps conceivable that Fleuriot, by suggesting that the form might be subjunctive or future, actually intended to derive **sesit** from a desiderative-future in *-sġe-, presumably with a secondary ending, i.e. *se(d)-sġe-d > **sesit**, with *-ġe- > -i- in final syllables (3.1.2.6 above) and neutralisation of voicing contrasts in word-final position. This position would seem difficult to maintain, given that another likely desiderative-future, **bissġet**, is attested in the same inscription, and does not show *-ġe- > -i-, suggesting a pre-form *bid-sġe-ti, producing the attested form by *-ds- > -ss- and apocope of final *-ġ (cf. KPV:748–49 re **bissġet** < PC *beid-). Consequently, it appears unlikely that **sesit** represents a desiderative-future. Since neither an interpretation as a subjunctive nor as a desiderative-future seems tenable, it would appear to be more prudent to follow Schmidt (1981) and Henry (1984) in seeing this as a preterite form, continuing an inherited s-aorist. Quite how **sesit** should then be segmented as an s-preterite is difficult to establish, however, as is determining the underlying root.

4.1.1.7.2 s-aorist interpretations

Schmidt (1981:265) derives **sesit** from a root he reconstructs as *sġe-/ *seġ-, ‘sow’, without indicating whether he means this to be a reconstruction for Proto-Celtic or Proto-Indo-European. A root *seġ- would be a reasonable formal match for Gaulish **sesit**, since PIE *seġ- would develop into Gaulish /sġe-/, written <se->. A root *seġ- also appears to underlie MW *hoedyl*, Breton *hoazl*, ‘lifetime, age’ (GPC:s.v. *hoedl*, *hoeddl*) < Proto-Brittonic *sġtlo- < PC *seġ-tlo-, although, as shown by Zair (2012a:120), alternative explanations are possible, and Matasović (2009:324–25) derives the forms in question from a Proto-Celtic etymon *sajtlo- ‘age, lifetime’ < PIE *seh₂i-tlo-. It is problematic, however, that there appears to be little evidence for a root of the structure *seġ- in Proto-Indo-European, nor one which could easily yield Proto-Celtic *seġ-. In modern notation, the closest match formally and semantically to Schmidt’s reconstruction is *seh₁-, ‘eindrücken, einsetzen’ → ‘säen’ (LIV²:517), for which a present stem *seh₁-ġe/o-, ‘sow’, is attested in Gothic (*saian*, ‘to sow’ < PGmc. *sġ(i)a-), Lithuanian (*sġju*, ‘I sow’) and OCS (*sġjŕ*, ‘I sow’). This may have been reanalysed from *seh₁-ġe/o- → *seh₁-e/o-, which would account for the final *ġ of Schmidt’s reconstruction. The presence of a laryngeal in the root would seem to be confirmed by the acute tone on Lithuanian *sġju* as well as by Latin nominal cognates such as *sġmen* < *seh₁-mġ. We might therefore expect *seh₁-ġe/o- > *sġe- > PC *sġi-, but in fact PIE *seh₁-ġe/o- would yield PC *sġe-ġe/o-, since the regular reflex of *CEH₁- sequences is *CEġ-, i.e. loss of the laryngeal with colouring but without lengthening (Zair 2012a:171–72). If **sesit** were derived from *seh₁-ġe/o- > PC *sġe-ġe/o- the form could be interpreted in either of two ways: it might either represent /sesit/, if from *sġe-ġe/o- directly, or /sġsit/, if from a reanalysed root *sġe-ġe-. Although the derivation of a Proto-Celtic root

*sǣǵ- from PIE *seh₁-ǵ^e/_o- is consequently phonologically viable, it is problematic that there is no s-aorist attested for this root in all of Indo-European, and that no verbal derivatives of this root survive in Irish or Brittonic, making it seem somewhat unlikely that Celtic had retained verbal forms of this root.

Henry (1984:147) also reconstructs the underlying root as *sēǵ-, and analyses the form as an s-aorist, as Schmidt does. He suggests that the root in question means ‘bind’, however, further commenting that this would refer to the deity Maponos, mentioned in the opening line of the inscription, “binding the oath which is about to be made”. This implies that he means either PIE *seh₁(ǵ)-, ‘loslassen’ (LIV²:518), with a semantic development from ‘set loose’ to ‘bind’, or *sh₂eǵ-, ‘fesseln, binden’ (LIV²:544),¹⁷⁰ or perhaps a conflation of the two roots. As with Schmidt’s suggestion of *seh₁-, neither of these roots is attested either as a verb in Celtic, or with an s-aorist elsewhere in Indo-European. It is not inconceivable, however, that the s-aorist was extended to these roots in Proto-Celtic, and that their absence in the other Celtic languages is an accident of preservation. The root *seh₁(ǵ)- would develop as described above for Schmidt’s etymology from *seh₁-, ‘sow’. A derivation from *sh₂eǵ- is perhaps also possible if a monophthongisation PC *sǣǵ- > Gaulish /sē-/ is assumed (toponym *Cetium* < *kaǵto-, ‘wood’ (DLG:97–8); perhaps theonym **Esus** (L-14) if < *aǵsos, cf. Oscan **aisos** (Inscriptions MV1 and Fr 12, Rix 2002:77, 80)¹⁷¹. If *#sǣǵ- > Gaulish /sē-/ , the roots *sh₂eǵ- and *seh₁(ǵ)- would have fallen together completely. The result would have been typologically similar to that of English ‘cleave’, where two etymologically distinct and largely antonymic roots – *gleǵb^h-, ‘kleben bleiben’ (LIV²:189-90), and *gleub^h-, ‘ausschneiden, spalten’ (LIV²:190-91) – converged formally. In the absence of further evidence of a falling together of these roots in Celtic, however, such a typological observation is not particularly informative.

Ultimately, the etymologies offered by Schmidt and Henry are both quite problematic formally. The etymology from *sh₂eǵ- requires the assumption of a monophthongisation *sǣǵ- > *sēǵ- in order to arrive at a Gaulish spelling **se-**, /sē-/ , for which there is some evidence, although it is hardly conclusive. Both roots of the shape *seh₁(ǵ)- might reasonably arrive at Gaulish **se-** /se:/ or /se/ by loss of *h₁ before *ǵ, the quantity of the vowel depending on whether the suffix-initial *ǵ of the present stem *seh₁-ǵ^e/_o- was reinterpreted as part of the root. There is little way to

¹⁷⁰ The presence of *h₂ in this root is confirmed by Hittite *ishiyanzi*, ‘they bind’ < *sh₂(i)-ǵé-.

¹⁷¹ The origin of Gaulish **Esus** and Oscan **aisos**, and their relationship with each other and Etruscan *aesar*, ‘god’, is not clear. If the Gaulish and Oscan terms are cognate, either as Etruscan loans or perhaps from PIE *h₂eǵs-, ‘suchen’, then Gaulish **Esus** might support the change *#(C)ǣǵ- > /ē-/.

determine which of the two roots is more likely to underlie **sesit**, other than the fact that **seh₁-*, ‘säen’ attests marginally more **j^e/o-*present tense forms across the Indo-European family.

If **sesit** is indeed a preterite form, which appears to be the more tenable of the two interpretations previously proposed, it seems that this form, like **legasit**, shows the 3sg. preterite active ending *-it* < **j^eet#*. An *s*-aorist **sēi-s-t* would have developed into **sēst* > Gaulish **sēt^s*, perhaps subsequently > **sēs*, and in fact an aorist **sed-s-t* to the root **sed-*, favoured by Fleurriot (1976:185) would probably have developed similarly, i.e. **sēd-s-t* > **sēst* (**VTsT* > **VsT*) > **sēt^s* > **sēs*. Given that this form would be ambiguous both as to its stem formation – superficially, it could be a present or aorist verbal form – and its person – which could be either 2sg. or 3sg. – it seems most likely that it would have been recharacterised. Consequently, the most tenable conclusion appears to be that **sesit** is a 3sg. *s*-preterite form, although the underlying root remains unclear.

4.1.1.8 **surexetesi**

This form, from the Châteaubleau tile (L-93, 5), has formal similarities with **ixsetesi**, discussed above, which appears likely to be a 2pl. subjunctive. The two forms clearly share the final sequence **-etesi**, and the writing of <**x**> where <**xs**> is expected has already been seen to be quite trivial in the corpus (cf. 4.1.1.5 above). The major difficulty regarding this form, therefore, is the identification of the root, a task made no easier by the script of the tile, which is particularly unclear and partially eroded at the start of this line. The form **surexetesi** given above is a direct transliteration of what is visible on the tablet in the published photograph (Lambert 2001a:64), but since this form is difficult to interpret, some corrections have been proposed in previous scholarship. Lambert (2001a:71; *RIG* L-93) reads the sequence as **suirxetesi**, but, as Mees (2011:91) notes, a form *sui* is otherwise unparalleled in Gaulish, and a pronoun *sue* is found several other times on the inscription, perhaps making a reading **sue** more viable. In the photograph of the tile, there is no trace of either <**e**> or <**i**>, and Lambert appears to add a gap, not visible in the photograph, between the letters <**u**> and <**r**> in his drawing (2001a:65), making the <**u**> appear more like a ligature <**uī**>. Given that this gap is not visible in the photograph, it would seem best to read a simple <**u**> here, rather than a ligature.¹⁷² Since the letter <**u**> consists of very similar strokes to both <**e**> and <**i**> in the cursive of the tablet, however, it seems quite

¹⁷² Lambert’s drawing in isolation would probably lead to a reading **suirixetesi**, but the grapheme Lambert draws as <**t**> looks quite dissimilar from the other instances of this grapheme on the inscription, and in the photograph the mark Lambert draws as the horizontal bar of the <**t**> looks more like damage to the support.

possible that the omission of either of these letters could be attributed to haplography.¹⁷³ As the sequence **sue** is otherwise attested in the tablet, particularly in proximity to what appear to be 2pl. verbal forms, the reading given by Mees would seem the more likely, and the sequence will be interpreted here as **su<e>**. Once this reading is established, the form can quite easily be segmented as **su<e> reḫetesi**. Although the letters <e> and <x> are somewhat damaged, the traces are sufficient for them to be restored with reasonable confidence.¹⁷⁴

Once the reading **su<e> reḫetesi** is established, what remains is to attempt an etymological and morphological analysis. As with **íexsetesi**, there appear to be possibly related formations in the rest of the inscription, on the basis of their lexical root. The candidates are **regeniatu** (line 3) and **Rega/regā** (lines 9 and 11). Regarding the first of these, Schrijver (2001:137) suggests that the element **regenia** of **regeniatu** might be cognate with Welsh *rhieni*, ‘parents’, which he derives from an *s*-stem neuter nom.-acc. pl. **pro-ĝenh₁-es-h₂* > PC *φrogenesǎ*. Schrijver takes the form as evidence for intervocalic loss of **s* in the language of the tile, despite the fact that there are several instances of its preservation in the text, e.g. **dagisamo** (line 8), as well as **íexsetesi** and **reḫetesi**, *inter alia*. Lambert (2001a:97–98) notes the same Welsh form as Schrijver, but prefers to derive **regenia** from PIE **pro-ĝenh₁-jeh₂* > PC **φrogeniā*. Both of these etymologies face the difficulty, however, that they leave the sequence **tu** isolated. All that Schrijver (2001:138) says of this sequence is a brief reference to “the monosyllable **tū* ‘you’, which may appear in lines 3, 9 and 11”, which completely fails to acknowledge the fact that, if the instance of **tu** in line 3 really is a 2sg. nom. personal pronoun, there appears to be no verb with which it might agree. Lambert’s suggestion (2001a:97–98) that **tu** might be a postposition – which he translates as ‘à’, presumably meaning that he considers it to be PC **tō* > OIr. *do-*, OW *di*, OBret. *do-* – is no more satisfactory than Schrijver’s treatment of the form as a 2sg. pronoun. There is, in the first place, no reason to assume a sound-change **ō* > /u/, which is required to explain the Gaulish form. More crucially, though, there appears to be no other evidence to justify the assumption that Gaulish had postpositional syntax, and indeed what evidence there is suggests that Gaulish had grammaticalised the directional adverbs it inherited from Proto-Indo-European as prepositions, rather than postpositions, e.g. **in ḗlisiíā** (L-13), **in alixie** (L-79), perhaps **extra tuθ(...)** (L-31). Lambert’s alternative explanation (2001a:98) of **regeniatu** as a preterite verbal form at least does not isolate the sequence **tu** in a way that makes it difficult to fit into the syntax of the rest of the text,

¹⁷³ This is, notably, not the only instance of scribal error on the tablet, cf. also **íegui** (line 5) for **íegumi** (line 7); possibly also **n'uana** for **<a>n'uana** in line 7.

¹⁷⁴ Mees (2011:100) also raises the possibility of restoring the form as **íeḫ<s>etesi**, and treating **sue íeḫ<s>etesi íegiíina** as a *figura etymologica* on the root *íeg-*. This is very much a *lectio difficilior*, however, as it requires the grapheme <r>, which is reasonably clearly executed, to be discarded as a scribal error.

but is also not without problems. His suggestion is “analyser *-geniatu* comme un imparfait en *-iat...* suivi d’un morphème préterital *-u*”, i.e. to treat the formation as **ro-gegn(H)-iat-u*. Although there does appear to be a preterite morpheme *-u* in Gaulish, its precise meaning and distribution are unclear, and there are no certain attestations of it in the language of the Gallo-Latin period, suggesting that it may have fallen out of usage by that stage of the language. It is consequently somewhat unattractive to call upon it to explain this form. This treatment of the **regeniatu** is anyway reliant on an interpretation of **íexsetesi** as “vous avez dit”, implying an etymology from **jek-*, ‘sprechen’ (*LIV*²:311), which is incompatible with the consistent writing of this root as **ieg-** wherever phonotactically possible in the text.¹⁷⁵ Another explanation of **regeniatu** has been offered by Mees (2011:98), again deriving it from **pro-ġenh₁-*, but suggesting that it represents an ablative singular **pro-ġen-ġāt-ōd* (sic.), meaning “literally ‘(descended) from a begotten collective’”. Presuming that the intended segmentation of the form is in fact **pro-ġenh₁-ġeh₂-tōd*, this might be a viable interpretation of the form, although it is, to say the least, somewhat convoluted, and such a derivative lacks parallels elsewhere in Gaulish. Mees’ interpretation of **regeniatu** appears to be the least problematic of those so far presented, and it might reasonably be concluded that this form is not related to **reġetesi**.

The forms **Rega/regā** seem somewhat more promising as cognates of **reġetesi**, and perhaps also point towards a connection with the forms **regu** (L-66, 1) and **reguc** (L-100, 9), which are often treated as a 1sg. present indicative *regū* < **h₃reġ-oh₂*, in the second case followed by enclitic *-c* < **k^uġ* (*KPV*:530–33). Lambert (2001a:111) has very little to say on the form beyond a speculative comparison with OIr. 3sg. fut. *-rega*, ‘will go’, leading him to suggest a pre-form **rigat* and an interpretation as “il (elle) ira”. Since **Rega** is written with a majuscule initial in its first instance, comparison with other uses of majuscule forms in the inscription, e.g. theonym(?) **Nemna** (line 1), anthroponym **Papissonē** (line 10), leads Mees (2011:103) to suggest that **Rega** is a proper noun, possibly a name or epithet of a deity. It should be noted, however, that this is perhaps anachronistic, since the use of variant letter forms is in no way uniform in texts of this period, and indeed **regā** is written with minuscule <r> in line 11. If Mees (2011) is correct in analysing the text of the Châteaubleau tile as a *defixio*, however, an appeal to a divinity associated with ‘putting things in order’, derived from the root **h₃reġ-*, would seem quite fitting. In such an interpretation, **Rega/regā** could be treated as the implied subject of the imperative verbal form **íexstumisendi** at the end of lines 9 and 11, leading to a translation ‘O Straightener(s),¹⁷⁶ curse her for me!’. It is

¹⁷⁵ Lambert’s suggested translation (loc. cit.) of **íexsetesi sue regeniatu o quprinno**, if **regeniatu** is taken as a verb, is “vous, vous avez dit qu’il (elle) connaissait auparavant *Quprinno*”.

¹⁷⁶ As it is unknown whether Gaulish, like Greek, required a singular verbal form after a neuter plural subject, **r^hega** could, in principle, reflect either fem. voc. sg. **regā* < **-eh₂* or neut. nom.-acc. pl. **regā* < **-h₂*.

to be acknowledged that this interpretation is quite similar to that given by Mees (2011:103–4), the differences being determined by the interpretation of the verbal form, discussed at 4.1.1.2 above.

If the text refers to a deity or group of deities derived from the root **h₃reǵ-*, it would make sense for one of the imprecations to be based on this verbal root. Given that the word directly following **reḫetesi** is **íegíinna**, which appears to be a verbal noun based on the root *íeg-*, ‘denounce, decry, curse’. Consequently, **su<e> reḫetesi íegíinna** might reasonably be translated, with due caution due to the continuing obscurity of the text as a whole, “may you set the denouncement/curse in order”, and **reḫetesi** interpreted as a 2pl. subjunctive, deriving from PC **reḫ-se-tesi* < PIE *s*-aorist subjunctive **h₃reǵ-se-tesi*.

4.1.2 The *ā*-subjunctive in Gaulish

If Gaulish had a subjunctive characterised by the morpheme *-ā-*, it is by far the least well-preserved of the possible exponents of the category. There are only four putative tokens of such a morpheme in the entire corpus, and, as will be seen, none of them is particularly secure in its interpretation as a subjunctive.

4.1.2.1 atesolas

This form, found on a small vase from Banassac (L-53; see appendix) is suggested in passing by Lambert (2001b:465) to be a subjunctive in *-ā-*. The reading of the inscription is generally somewhat unclear, and it is possible that the penultimate letter of this form is in fact <o>, which immediately removes it from consideration as a subjunctive in *-ā-*. The whole text, following *RIG*, is:

citan (or **citmi**) **ate solos** (or **solds**)

lubi tarcot esoes

The published image (*RIG* II.2:160) shows a break immediately next to the left edge of the text, so it is possible that other letters have been lost prior to **icit**, and indeed prior to **lubi**.

Interpreting **atesolas** as a verbal form is complicated by the fact that an underlying verbal root cannot easily be identified. Lambert suggests Greek *ἐλεῖν* as a cognate, making the root **selh₁-*, ‘nehmen’ (*LIV*²:529), attested also in OIr. *do-slí*, MW *dyrllid*, ‘deserve’ < **-slī-ǵ^e/o-* (*KPV*:588–591; Zair 2015:219–20). It is difficult to explain the *o*-vocalism in **atesolas**, however, given that the Insular Celtic attestations reflect a full-grade II **sleh₁-ǵ^e/o-*, and the OIr. *a*-subjunctive correlates with *e*-vocalism (2.2.2.1). It is perhaps conceivable that the vocalism was generalised from a causative **solh₁-éǵ^e/o-* (Gothic *saljan*, ‘sacrifice’; *LIV*²:529), but this formation is exclusively found in Germanic. It might be preferable to identify **solas** or **solos** with the onomastic element **suli-**

/soli-, '(bonne) vue' (DLG:287), perhaps < **h₁su-uel-* 'good-seeing'. The form **atesolos/atesolas** could then be interpreted as an anthroponym, literally 'very good-seeing'. In fact, if the first line is reconstructed as **fe]cit mi atesolos**, the inscription can be read as a bilingual craftsman's mark, "Atesolos made me", which given the level of bilingualism attested at the Roman potteries in Gaul (cf. Adams 2003:687–724) is hardly an incredible proposition.

4.1.2.2 *axat(i)*

The form *axat(i)*, like *scrisumio*, above, is found in an incantation in Marcellus of Bordeaux's *De medicamentis*, and consequently faces the same problems of recording and transmission as discussed with respect to that form. Since the segmentation of the text is unclear, it is uncertain whether the ending is *-t* or *-ti*, but since Gaulish appears to have undergone apocope of final **-ī* after /s/ and /t/ in verbal forms that were not in clause-initial position, the ending *-t* is more likely. The context, with segmentation following Niedermann (1995), is:

*Item ipso oculo clauso, qui carminatus erit, patentem perfricabis et ter carmen
hoc dices et totiens spues: inmon dercomarcos axatison; ...*

So, while the eye upon which the spell is to be cast is shut, you should rub the open one, saying this spell three times, and spit just as many times:

inmon dercomarcos axatison; ...

(*De medicamentis*, VIII.171)

The principal reason for identifying this spell as Gaulish is the sequence *dercomarcos*, which appears to contain the Proto-Celtic root **derko-*, ultimately from PIE **derk-*, 'see', found also in OIr. *derc*, 'eye, face', OBret. *derch*, 'appearance' (DLG:139–40; Matasović 2009:96). Given that the spell is supposed to cure diseases of the eye, the identification of this root seems credible. The rest of the text remains quite obscure, however. The sequence *inmon* is generally taken as meaning 'in(to) my' (DLG: 228–29), in which case *inmon derco-* would presumably be taken as reflecting an earlier **in mon derkon*, 'into my eye'. Blom (2007:70–71; 101) suggests a reading *inmon dercomatos*, with *dercomatos* as a compound of Gaulish *derco-* and Greek ὄμμα, would be more faithful to the manuscript, although he does not specify which manuscript he means. Since the charm is only preserved in two manuscripts, and one of them (BNF Latin 6880, f.42r) offers the text *dercomarcos*, presumably Blom is referring to the reading of BM Laon MS 420, images of which were unavailable for autopsy. The manuscript testimony can consequently only be said to be equivocal as to the correct reading. It is perhaps more credible that the scribe of BNF Latin 6880, or one of his predecessors, might have 'corrected' *dercomatos* to *dercomarcos* than the opposite, if he had construed the sequence *axat* as a verb, and was attempting to provide a

personal name to function as its subject. The charm as a whole is so opaque, however, that it is quite difficult to say for certain which reading is likely to be closer to the original.

Several possible interpretations of **axat** as a subjunctive have been presented, connecting it with the root **ag-* < **h₂eǵ-*, ‘drive’. Delamarre (*DLG*:63) suggests an analysis of the form as **ag-s-at*, citing *CCCG* (285–87), which do not discuss this particular form. Delamarre fails to give a detailed analysis, but he suggests “[i]l peut représenter une forme *ag-s-at* avec le suffixe *-s-* de subjonctif”. This is, however, difficult to maintain. As has been seen in the discussion of the possible Gaulish *s*-subjunctives, above, this appears to have been a thematic formation **-s^e/_o-*, cf. **íexsetesi**, **rexetesi** and *scrisumio*, as well as MW *duch* < **douχseti* < **deuk-se-ti*. Given that **ag-* regularly inflects as a simple thematic verb not only in Celtic, e.g. OIr. *aigid* < **ag-e-ti*, but throughout Indo-European, cf. Skt. *ájati*, Gk. ἄγω, there appears to be no analogical source in the paradigm of **ag-* for the replacement of expected **aχset(i)* by *axat(i)*. Schmidt (2007b:269, fn.10) follows Meid (1996:44–45), who also takes *axati* as a subjunctive, suggesting the segmentation **aǵ-sā-ti* for the form. More widely, Meid suggests a comparison with the MW subjunctive-future morpheme *-(h)aw-*, which could also derive from **-sā-*. It is not at all certain, however, that *-(h)aw-* is an inherited suffix in Welsh, since no cognates of the suffix are attested in the other Brittonic languages. Moreover, if *-(h)aw-* does reflect an inherited suffix **-sā-*, the presence of /h/ implies that the suffix actually had the form **-Vsā-*, and generally **-asā-* has been reconstructed since Watkins (1962:152–53). As Schumacher (1995) has quite convincingly shown, however, the MW 3sg. ending *-(h)awd*, which is the alleged cognate of the suffix **-sā-*, is better explained as an inherited 3sg. pres. abs. **-ā-ti* > *-awd*, sporadically recharacterised with *-(h)-* as a result of being otherwise homophonous with the 3sg. imperative ending *-hawd*.¹⁷⁷ With the Welsh side of the comparison otherwise explained, there remains no reason to retain a comparison between *axati*, segmented as *aǵ-sā-ti* and MW *-(h)awd*, nor for the reconstruction of the “Proto-Gallo-Brittonic” **-sā-* subjunctive (pace Schmidt 2007b).

The theory put forward by Fleuriot (1974:65) does not stand scrutiny particularly well, either. He suggests “AXAT note simplement */*aǵāt/*. Le *g* intervocalique [est] spirantisé...”. This might be disputed on orthographic grounds, in the first instance. While it is plausible that a Latin

¹⁷⁷ Schumacher’s argumentation is rather more involved, but cannot be elaborated on here for reasons of space. His conclusion is not really at odds with Isaac’s observations (2004) that this form generally functions as a future tense ending in Old and Middle Welsh, despite the adversarial tone of Isaac’s response to Schumacher’s. Since the system of absolute and conjunct inflection was in decline in Welsh, it would make sense for isolated relics of this system to be found in functions along a grammaticalisation pathway from their original semantics, and the pathway present → future is well-established in the typological literature (cf. Bybee, Perkins, and Pagliuca 1994:chap. 7).

speaker such as Marcellus or his scribe would have heard the Gaulish sequence /χs/ of a putative **aχsat(i)* < **aġ-sā-t(i)* as Latin /ks/, and thus written <x>, it seems highly unlikely that a Late Gaulish /γ/ (Fleuriot's /ʒ/?) < earlier /g/ would have been represented with this grapheme. It would appear intrinsically more sensible for a phoneme /ʒ/ to be denoted with a grapheme that otherwise represented a continuant or semivowel phoneme, possibly <z>, <s>, or <i>. It might also be objected that the general tendency in Gaulish is for intervocalic /g/ simply to be lost when it weakens, rather than spirantising (Lambert 2003:46). Although neither of these factors conclusively excludes the possibility of deriving *axat(i)* from an *ā*-subjunctive, it must also be said that it stretches credulity to postulate the only instance in the entirety of Gaulish of <x> for etymological /g/ in such an obscure context, in order to force comparison with OIr. 3sg. subj. *agaid*, *-aga*.

To conclude, *axat(i)* cannot easily be admitted as evidence of a Gaulish *ā*-subjunctive. Not only is its context too poorly understood to allow accurate interpretation of the semantics of the form, but one of the possible subjunctive interpretations of the form, as a subjunctive in **-sā-* is formally inadmissible. Although an interpretation as a simple *ā*-subjunctive is not impossible, there are considerable orthographic objections to Fleuriot's interpretation, which should cast yet more doubt over the analysis as a subjunctive.

4.1.2.3 **lliauto**

This form, from L-44, is unclear both in its interpretation and segmentation (see appendix). The support is a vase from the potteries at La Graufesenque. The text as a whole, with spacing retained as on the vase, reads:

peculiarosiruni afro nico lliauto

Only Lambert (*RIG* II.2:142) has suggested reading the form as a subjunctive, saying “*lliauto* semble bien être un verbe, avec suffixations *-u-to-*, comprenant sans doute un connecteur *-u-* et un anaphorique *-to-*”. His suggestions for the underlying root are “**pleH-(i)-* « remplir » ..., **le(H)i-* « faire couler » ..., **lei-(H)-*, « enduire » ...”. Lambert explains the geminated initial consonant either as *sandhi* with the preceding form – i.e. **fronicos lia-uto* > ...**fro nico lliauto** – but such *sandhi* has few, if any parallels in the corpus, or as “une particularité du thème verbal (qui viendrait alors de **sli-H-*)”. The suggestion that **llia** might represent earlier **sl-* is presumably based on the superficial similarity with Welsh <ll>, which represents /t̪/ < **sl-*, but it appears that such a development did not take place in Gaulish, as shown by **slanossiġet-**, ‘be healthy(?)’ (L-90.3). His vacillation between the various possible etymologies does little to strengthen the case that this is a verbal form.

A further problem with Lambert's interpretation is that, if **llia** is a verb, it also has no clear desinence. If it is assumed that final /s/ is lost in the language of the inscription, and loss of final /s/ is indeed a feature of the Gaulish of some of the potters at La Graufesenque, it might be possible to interpret **llia** as reflecting earlier **liās*. Given that the rest of the text cannot be segmented with any certainty, however, it is in no way clear that loss of /s/ was characteristic of this scribe. Furthermore, if Lambert is correct in interpreting the geminated initial consonant as a *sandhi* phenomenon, this would appear to imply that final /s/ is generally retained in the Gaulish of the scribe of this text, in order for it to be able to trigger *sandhi*. Very few certain verbal forms are found in the graffiti, as opposed to the firing lists, of La Graufesenque. Those that are tend either to be imperatives, particularly **lubi**, 'love!', at the start of an inscription (e.g L-37), or forms of **auot**, 'fecit' (e.g L-43). It might actually be better here to see the inscription as a chiasmic construction and re-segment it as follows: **peculiaro siruni afronic olliauto**. The forms **siruni** and **afroni** could then be interpreted as two personal names in the genitive singular, if *o*-stems, or the dative singular, if *ā*- or *iā*-stems joined by enclitic *-c < *-kuǝ*. The form **olliauto** might then be the name of a type of vessel, possibly containing the Gaulish root *ollo-*, 'big' (DLG:241) – or indeed perhaps Latin *ole-*, 'oil' or *olla*, 'pot, jar' – and **peculiaro** an *o*-stem adaptation into Gaulish of Latin *peculiaris*, 'private (of property)'. The inscription would then translate as "The private *olliautos* of Sirunus/a and Afronus/a".

In summary, not much can be said of this text with any certainty, and the interpretation just ventured is speculative, as is that provided by Lambert. Nonetheless, there seems little reason to read **llia** as a verbal form, and less still to interpret it as an *ā*-subjunctive.

4.1.2.4 **lubíias**

This form is found in an inscription from La Graufesenque (L-36), which reads as follows:

aric]ani lubíias sa[...
]illias santi[

Lambert restores **aric]ani** on the basis of L-35.1, which reads **aricani lubitias**, saying (2003:145) "La restitution... est certaine", but without venturing an interpretation of **lubíias** itself. In *RIG* (II.2:131), however, he reports that "*Lubiías* est en général considéré comme un subjonctif en *-ā*-long, 2sg.", while also expressing scepticism about the possibility of the form representing an *ā*-subjunctive, as "cela contredit les hypothèses les plus courantes sur l'origine du subjonctif en *-ā*-" (*RIG* II.2:132). Lambert consequently suggests that "*lubíias* est peut-être la juxtaposition d'un impératif 2 sg. *lubi...* et d'un élément anaphorique *-ias*", a suggestion which seems quite credible in the light of the wider attestation of the form **lubi** (L-37, L-51, L-53, etc.), which appears to be an imperative 'love!'. K.H. Schmidt, however, has repeatedly advocated reading **lubíias** as a

subjunctive in *-ā-* (e.g. 1983:78–79; 1992:47–48), and insists that “[a]uf Grund der Faktenlage ist ... für das Keltische an dem auch für das Italische und Tocharische bezeugten *ā*-Konjunktiv festzuhalten” (2007b:270–71). The form **lubíās**, along with Celtiberian **asekati** and **kuati** (both K.1.1), to be discussed further below, is in fact one of his principal pieces of evidence for an alleged Proto-Celtic *ā*-subjunctive, reconstructed primarily on the basis of Irish, and ostensibly cognate with the *ā*-subjunctive of Italic. It is notable, therefore, that **lubíās** differs in a significant way from its supposed cognates in both Irish and Italic.

As is well-known, the *ā*-subjunctive of Irish is built by the addition of a suffix *-ā-* directly to the verbal root. This fact is made particularly clear when the present stem of the verb continues an Indo-European nasal present, e.g. 3sg. pres. ind. abs. *lenaid*, ‘clings, survives’ < **li-na-ti* (KPV:453) ← **h₂li-né-h_x-ti* (LIV²:277–8), vs. 3sg. pres. subj. conj. *-lia* < earlier Irish **lej-ā-t*.¹⁷⁸ Similarly, the oldest attestations of the *ā*-subjunctive in Latin show it being formed to the bare root of the verb, rather than the characterised present-tense stem, e.g. 1sg. subj. *tagam* to 1sg. pres. ind. *tango*. It is consequently highly inconvenient to the theory of a Proto-Italo-Celtic *ā*-subjunctive that one of the only possible tokens of this morpheme in Gaulish is built to a present stem **lub^h-j^e/o-*, rather than to the bare root, as would be expected on the basis of the comparative data. It is, naturally, not impossible that Gaulish extended the morpheme *-ā-* to characterised stems, and that all instances of *ā*-subjunctives formed to the bare verbal root have simply been lost due to the fragmentary nature of the corpus. Given the lack of any other evidence for a Gaulish *ā*-subjunctive, however, it would seem that looking for such morpheme where the comparative data do not lead us to expect it risks confirmation bias and consequent false positive results. Put simply, if *ā*-subjunctives cannot first be found formed directly to the verbal root in Gaulish, we should be highly suspicious of interpretations of forms as *ā*-subjunctives when they clearly show another derivational suffix.

Given this formal discrepancy between **lubíās** and the *ā*-subjunctives of Irish and early Latin, it seems quite unlikely that this form reflects an inherited Gaulish *ā*-subjunctive. The context of the form is anyway too fragmentary to make any real judgement of its function, meaning that the interpretation of the form as a subjunctive can only be treated as highly speculative. Lambert’s suggestion that the form represents 2sg. impv. **lubi**, followed by a suffixed pronoun, seems a rather more likely option, since such an imperative is at least otherwise attested in the corpus.

¹⁷⁸ For clarity, the reconstruction **lej-ā-t* does not indicate acceptance of a Proto-Italo-Celtic *ā*-subjunctive, but rather represents the fact that synchronically the immediate predecessor to OIr. *-lia* would have had a suffix **-ā-*. It seems likelier that this suffix derives from **-ǎh^e/o-* < **-ǎs^e/o-*, as suggested by McCone (1991), but Schmidt’s Proto-Italo-Celtic **-ā-* would yield the same result.

Given that the following line of the text starts **jillias**, which is taken as nominal by Lambert (*RIG* II.2:132), it is also possible that **lubiñas** and **jillias** agree, and represent \bar{a} -stem nouns or adjectives, either in the genitive singular or the nominative or accusative plural.

4.1.3 The root thematic subjunctive in Gaulish

A small number of forms in Gaulish have been suggested to be subjunctives, but without showing either the suffix $*-s^e/_o-$ or the putative suffix $*-\bar{a}-$. Instead, they appear to show just the thematic vowel $-e/_o-$. Consequently, they might either be interpreted as root-aorist subjunctives, or simple thematic subjunctives to athematic present stems. As with the other formations, not all forms are equally secure in their interpretation as subjunctives.

4.1.3.1 Gaulish reflexes of $*b^huh_x-$

Several forms have been suggested to be subjunctives of the Indo-European root $*b^huh_x-$, ‘be’. In the Insular Celtic languages, this root is suppletive with $*h_1es-$, ‘be’, and provides almost all of the attested subjunctive forms of the paradigm. It would consequently be unsurprising, from a comparative perspective, to find a similar suppletive relationship between the two roots in Gaulish.

The forms in question fall into two categories: those with a stem $bu-$, and those with a stem $bij-$. While those built to the first stem are quite certain to belong to the root $*b^huh_x-$, it has been suggested (e.g. *KPV*:226, 229–30) that the forms built to the stem $bij-$ are actually root-aorist subjunctives of the Indo-European root $*b^hejh_x-$, ‘schlagen’ (*LIV*²:72). The principal attraction of this theory is that it avoids the postulation of two subjunctive stems for the same root, which would be a situation generally unparalleled in the known Celtic languages. Insofar as is possible, it will be examined below whether the syntax of the contexts in which the forms are found lends weight to the identification of either $*b^huh_x-$ or $*b^hejh_x-$ as the root underlying the stem $*bij-$.

4.1.3.1.1 (deuor)bueti(d)

Three forms are found in the corpus containing the sequence **bueti**. In two of these cases, it appears as a simple verb: **buetid** (L-100, 8-9) and **bueti** (L-101, B.1). In the instance on L-101, the immediately following letter is <d>, making it possible that a reading as **buetid** there would also be appropriate, but there is a space between the end of **bueti** and the following <d>, which elsewhere in the text appears to indicate word breaks, although far from consistently. A compound form of the verb, **deuorbuetid**, is also attested (L-66, 6), which has been compared to MW *dyorfod*, ‘conquer, subdue, overcome’ (McCone 1996a:110). This is one of the forms in Gaulish most widely accepted as being subjunctive (by e.g. Fleuriot 1976; Schmidt 1981; Henry 1984; McCone 1991:chap. 6; Lambert 2003:64), an interpretation supported by both its form and the contexts in which it is found. It is quite transparent in its formation, reflecting a root-aorist

subjunctive **b^huh_x-e-ti*,¹⁷⁹ which would have developed regularly into Proto-Celtic **bu_ɥeti*, cf. **suh₁eti* > **su_ɥeti* > **sou_ɥeti* > OIr. *soid*, ‘turns’, MW *amheuaf* ‘I doubt’ (Stifter 2017:1196). Lambert’s suggestion that **bueti**, etc., represent the “present du subjonctif”, cannot be upheld from a comparative perspective, if by this he means to imply that it is a subjunctive built to an inherited present stem. The athematic root present that would be required to produce a short-vowel present subjunctive in Gaulish is unattested for the root **b^huh_x-* throughout Celtic, and indeed throughout Indo-European (KPV:241; LIV²:98). Outside of Gaulish, cognate forms can be found in OIr. 3sg. subj. abs. *beith*, conj. *-bé*, which derives regularly from a Pre-Irish **bu_ɥeti* – treated by Schumacher (KPV:241) as a replacement of inherited **bu_ɥeti*, presumably on the basis of the present stem **bu_ɥ-i_ɛ/o-* – and Vedic 3sg. aor. subj. *bhúvat* < PIIr. **b^hu_ɥat* < PIE **b^huh_x-e-t(i)*. The Celtic-internal and external comparanda lend themselves to the reconstruction of a Proto-Celtic 3sg. subjunctive **bu_ɥeti*.

The context of the most secure attestation of **bueti** also suggests a subjunctive interpretation. This is the instance in L-100, where the immediate context is:

... **meíon ponc sesit buetid ollon reguccambion exsops...**
(L-100, 8-9)

Given that most scholars (Schmidt 1981:265; Henry 1984:147; McCone 1991:119) propose a change of subject from 3sg. to 1sg. at **reguc**, it seems likely that **meíon ponc sesit buetid ollon** should be treated as a complete syntactic unit. Although there remains some doubt about the interpretation of this passage, particularly related to the verbal form **sesit** already discussed, the parallelism between **meíon**, ‘small’, and **ollon**, ‘great’ is widely accepted (Schmidt 1981:264; Henry 1984:147; McCone 1991:119). As has already been seen, it is quite likely that **ponc sesit** represents a temporal clause, “when he has sown/bound/placed”, although another possible interpretation of **ponc** could be as an indefinite pronoun **k_uom-k_uě*, agreeing with **meíon**, analogous to Latin *quisque*, etc.¹⁸⁰ This would lead to the interpretation “whatever small thing (s)he has X-d, may it become great”, which would appear to fit the precatory context of the text at least as well as the more widespread interpretation “a small thing, when (s)he has X-d (it), may it become great”.

¹⁷⁹ Indo-European **b^huh_x-* is widely attested as forming a root-aorist, e.g. Gk. *ἔφϋ*, Skt. *ábhūt*.

¹⁸⁰ Although the structure **ponc meíon sesit* might be expected, with the subject of the verb within the indefinite relative or temporal clause, it seems likely that **meíon** was moved for stylistic reasons, i.e. to achieve chiasmus with its antithesis, **ollon**.

Although less can be said with certainty of the other two instances of **bueti**, due to the fragmentary nature of the texts in which they are found, it is notable that L-101 also appears to be a type of prayer, more specifically a *defixio*. As has been seen above, the first half of L-101 contains the possible subjunctive **gabxset**, and the whole tablet appears either to be a protection charm placed over the contents of a tomb, or a vengeance spell cast against a thief. In such a context, the suggestion that **bueti** might here be equivalent in function to Latin *esto* (Mees 2010:57) – or perhaps more correctly, *sit*, since 3sg. subjunctives are rather more prevalent than 3sg. imperatives in Latin *defixiones* (Kropp 2010:371–72) – becomes quite appealing. Although Mees proposes that **buetid aļilox**, as he transcribes L-101, B.1, might represent a Gaulish adaptation of the Latin formula *sacer esto*, “may he be cursed”, this is quite a speculative interpretation, and it might be preferable to take **bueti(d)** as “may (s)he be X”, with the adjective or verbal noun being lost in the damaged section of the tablet. Similarly, the context of **deorbuetid** (L-66, A.6, B.1-2) might provide some support for interpreting the form as a subjunctive. If Meid (1994b:49–50) and McCone (McCone 1996a) are correct in interpreting L-66 as a message of martial advice, possibly to a young man (cf. voc. sg. **gnate**, A.7, ‘boy, son’), it would seem to make some sense to interpret the sequence **nane deorbuetid loncate**, which is the complete context of both instances of the form, as some sort of exhortation or wish. The correspondence with Welsh *dyorfod*, ‘conquer’, and the fact that the text is apparently directly addressed to the **gnatos* referred to in A.7, would seem to suggest that the sense of **nane deorbuetid** is “may he/it not conquer (you?)”. The interpretation of **loncate** as a 2pl. imperative (Fleuriot 1980; followed by Lambert 2003:148–49) seems unlikely, given the vocative singular addressee, so it might be better interpreted as either a further vocative singular (so McCone 1996a) or an adverbial dative-locative form, giving the sense “may he/it not conquer you with X”. Either way, a subjunctive interpretation of the form fits what sense can be made of the rest of the text well.

Probably also related to the instances of **bueti** is the form **bued** (L-98, 2B.2), mentioned briefly during the discussion above of whether Gaulish had undergone apocope of **-ī*. The context of the form (L-98, 2B.2-3) reads **nitianncobuedlidat | iasuolson...**, and is segmented by Lambert (2003:173) as *ni tianncobued lidat-ias uolson*. He translates “qu’elle n’échappe pas au mal de l’ensorcelée”, taking *tianncobued* as reflecting a combination of the verbal root **dī-anko-*, cf. MW *dianc*, Br. *diank*, ‘escape, elude’, with the 3sg. subjunctive *buet*, and an enclitic *-s < *-sē*. The etymology of *dianc* given in *GPC* (s.v. *dihangaf*), however, is from **dī-eks-ŋk-*, from PIE **h₁nek-* (*LIV*²:282–84), which would be expected to yield a Gaulish form along the lines of **dīeχsank-*. *KPV* (204, 207–8) associates *dianc* with a PC perfect stem **-ānk-*, ‘ist geneigt’, derived from the PIE root **h₂enk-* (*LIV*²:268), presumably reflecting an otherwise unattested **h₂e-h₂(o)nk-*. Regardless

of the etymology of the Brittonic forms, however, a spelling with <t> for etymological *d is unexpected in Gaulish, which serves to invalidate Lambert’s analysis. It is possible that **nianncobued** reflects a sequence *nī tiannco bued*, in which *tiannco* is an otherwise unattested noun or adjective.¹⁸¹ The form **bued** seems likely, however, to be the apocopated form of **bueti**, the final <đ> being attributable either to an enclitic, as suggested by Lambert, or perhaps simply to scribal representation of phonetic lenition, following Eska (1997:176).

4.1.3.1.2 **biētutu/biōntutu**

Given that **bueti** and its variants seem highly likely to represent the subjunctive of the root **b^huh_x-* in Celtic, and no other root in Celtic attests more than one inherited subjunctive stem, it seems most unlikely in principle that the forms **biētutu** (L-98, 1B.9) and **biōntutu** (L-98, 1B.6, 11; 2B.7) represent subjunctives of this root. Two options for their analysis consequently present themselves: the forms could either reflect the present stem **b_u-i_ē/o-* (KPV:241) (so Lambert 2003:171; Mees 2008b:128; Stifter 2017:1196), or a root-aorist subjunctive to the root **bi-na-*, ‘schlagen’ (KPV:226) < PIE **b^hej_x-* (LIV²:72), the explanation preferred in KPV. Which of these possibilities is selected depends essentially on the rather opaque syntax in which the forms are found. Lambert (RIG II.2:266), who takes the forms as reflecting **b_u-i_ē/o-*, notes the peculiarity that some of them appear to be accompanied by forms ending in *-m*, implying that they are accusative singular forms, e.g. **tiopritom biētutu** (1B.9); **ne rodatim biōnt-utu** (2A.7-8). Of the forms in *-m* found alongside the verbs in question, however, only **rodatim** is definitely accusative, since an ending *-om* could reflect an inherited genitive plural (Stüber 2017:1204–5), and could belong to the preceding syntactic unit.¹⁸² Schumacher (KPV:229–30) takes these apparently accusative objects as indicative that the root **biī-** is transitive, and therefore identifies it with PC **bi-na-*, analysing **biētutu** and **biōntutu** as 3sg. and 3pl. imperatives, respectively, built to the subjunctive stem **bi_i-e/o-*. The principal difficulty with such an analysis is the fact that no root-aorist is attested in Indo-European to the root **b^hej_x-* (LIV²:72), making it unlikely that a root-aorist subjunctive **b^hej_x-e/o-* should have been preserved into Proto-Celtic. Ultimately, both readings are difficult to sustain, whether for morphological or syntactic reasons, and to determine the correct interpretation of these forms would require a more detailed analysis of L-98 than space here will allow.

¹⁸¹ Lambert may be correct to see *tiannco* as a verbal noun, since the use of verbal nouns with forms of **es-*/**bū-* appears to be paralleled by forms such as **beíassunebiti** (L-93, 6), **beíassusete** (L-93, 7), etc.

¹⁸² The sequence **ne rodatim** is the last of a series of negated accusative singulars: **ne lisatim ne licia-tim ne rodatim**.

4.1.3.1.3 Conclusions

Gaulish **bueti** seems highly likely to continue an inherited root-aorist subjunctive **bu_ueti* < **b^huh_x-e-ti*, both on formal and functional grounds. It would seem most unlikely that the forms built to the root **bií-** are subjunctives of **b^huh_x-*, but determining whether they are present tense forms of this root, or aorist subjunctives of **b^he_ǵh_x-* is challenging, given our current state of knowledge.

4.1.3.2 lopites/lotites

This form, from L-100, is uncertain in both its reading and interpretation. Fleuriot (1976:180) reads **lotites**, and suggests that the form “est apparemment un impératif déponent”, connecting it with the OIr. adjective *luath*, ‘quick’. The imperative type Fleuriot has in mind, which underlies e.g. OIr. *labrithe*, ‘speak!’, has been shown by Cowgill (1983:79) as likely to be the result of remodelling, although he does not specify when this remodelling took place. If this imperative morpheme was only established in the prehistory of Irish – as seems possible, given the lack of Brittonic comparanda – the comparison with **lotites** cannot easily be sustained. There is also no evidence of a deponent verb formed from **lōt-* in Irish, although the fact that the denominal verb *lúatha(ig)id* (*eDIL*, s.v.cit.) can have both transitive and intransitive semantics makes it conceivable that this is a late replacement of an earlier 3sg. deponent **lúathar* or similar. Nonetheless, Fleuriot’s interpretation has been generally followed (Schmidt 1981:263; Henry 1984:145; Mees 2007). The only dissenting voice has been Lambert (1979:152), primarily on the identification of the root: he reads **lopites**, and consequently draws comparison with Latin *loquor*. This Latin form remains, remarkably, without an accepted etymology, although de Vaan (2008:348–49) suggests that it reflects a Proto-Italic **(t)lok^u-e/o-*, derived from a PIE root **tlok^u-*, ‘talk’, absent from *LIV*², but reconstructed as **tolk^u-* in *IEW* (1088). The reflex of an initial **tl-* in Gaulish is uncertain, but if *IEW* is correct in identifying OIr. *ad-tluichethar* as cognate, it would seem that the cluster was preserved in Proto-Celtic. We might consequently expect a Gaulish reflex **tlopites*. Lambert (2003:155–56) suggests that **lopites** is either a 2sg. imperative or a subjunctive “à valeur impérative”, making his formal analysis essentially the same as Fleuriot’s. Ultimately, an explanation as a subjunctive leaves the sequence **-it-** unexplained. If the form is taken as imperative, **lopites/lotites** can perhaps be tentatively analysed as a deponent iterative-causative formation PC **lok^u/t-ī-te_ǵis* < Quasi-PIE **(lok^u/t)-e_ǵe/o-th₂e_ǵis*, or similar. As Delamarre (*DLG*:208) says, however, the form is “[t]rès incertain”.

4.1.3.3 lunget

Lambert (2003:64) lists this form as a 3sg. subjunctive, although in his analysis of L-98 (1A.6-7), where the form is found, he describes it as “prés. à nasale infixée” (2003:169). Lambert compares OIr. *-loing*, taken by *KPV* (460) as reflecting a present stem **lu-n-g-e/o-*, ‘setzen, legen, stellen’. The

root forms an *s*-subjunctive in Irish, e.g. 1sg. *fo-llós* (Ml.62b12), as expected. Since the root forms a thematic present stem in Irish, we should probably expect a ‘hyperthematic’ subjunctive **lungīt* < **lu-n-g-ēt*. Although it is possible that the thematisation was a later development, restricted to the insular Celtic languages, if the nasal infix still underwent ablaut in Gaulish we should expect the 3sg. subjunctive to be **lunget*, cf. Vedic 3sg. subj. *yunájat* < **ju-né-g-e-t(i)*. This would appear to imply that **lunget** represents either a 3sg. thematic present, or, as suggested in *KPV* (462), a 3sg. imperative **lungetu*, given that the following sequence is **utónid**.

4.1.3.4 **sniedđic**

This form, found in L-100 (line 3), is taken by Lambert as a 2sg. subjunctive **snijēs* followed by a 2sg. pronoun **ti* and the enclitic conjunction *-c* < **-k^uě*. The full line in which it appears reads, following *RIG*, **lopites sniedđic sos brixtia anderon**. The latter part of this form appears similar to the conjunction *etic* < **eti-k^uě*, found once more on L-100, and twice on L-98, leading several scholars, since Fleuriot (1976), to the conclusion that the sequence **sniedđic sos** should be taken as **snī etic sos*, ‘us and them’, with both pronouns being interpreted as objects of the verbal form **lopites**, discussed above (so Schmidt 1981; Henry 1984; Eska 1997). Lambert’s interpretation is, however, followed by Mees (2007), who interprets it as meaning ‘bind’, interpreting the Chamalières inscription as a *defixio*. Both Lambert and Mees object to identifying **snī** as a 1pl. object pronoun, although Eska (1997:n. 3; citing Katz 1994) defends reconstructing PC **snē*. Although Mees disagrees with the specifics of Lambert’s formal analysis, he accepts the identification with a Proto-Celtic root **snī-* < PIE **sneh₁-*, ‘spinnen’ (*LIV*²:571–72). He suggests, however, that **sniedđi** reflects a periphrastic athematic imperative **snī-esdi* < **h₁es-d^{hi}*. If the preceding form **lopites** is identified as an imperative, it would make sense for any verbal form found in juxtaposition with it also to be imperative. It appears distinctly more likely that **sniedđic** either reflects a conjoined pair of object pronouns, or perhaps a 2sg. imperative, than a subjunctive.

4.2 **Celtiberian**

As with Gaulish, it remains difficult to identify subjunctive verbal forms in the Celtiberian corpus with any certainty, since the language as a whole is fragmentary, and consequently poorly understood. Nonetheless, several forms in Celtiberian have been suggested to exhibit subjunctive or future tense morphology, largely by comparison with other Celtic languages, or with Indo-European more widely. The two most secure forms among the suggested Celtiberian subjunctives, as well as one of the more ambiguous forms, are generally taken to display the morpheme *-se-*, comparable with the OIr. *s*-subjunctive. Alongside these, a number of forms with an element *-a-* before the personal desinence have been compared with the Irish *a*-subjunctive. Finally, a few forms in Celtiberian have been suggested to represent short-vowel subjunctives,

either to root-aorists or to present tense stems. Depending on scholars' theoretical approach, the same forms have often been classified differently within these subtypes of subjunctive. The possible subjunctive forms are laid out below, ahead of further discussion.

Table 4-2 Possible Celtiberian Subjunctives

Formation	Possible attestations
Subjunctive in <i>-se/o-</i> :	ambitseti (K.1.1, A5) robiseti (K.1.1, A8)
Thematic subjunctive (root-aorist/present):	bionti (K.1.1, A7) zizeti (Plomo de Iniesta, A5), zizonti (K.1.1, A7)
Subjunctive in <i>-a-</i> :	asekati (K.1.1, A6) auzanto (K.1.3, H), auza[to?/ti?] (K.2.1), auz(ato?/ati?) (K.0.8) ¹⁸³ susati (K.7.1) kuati (K.1.1, A8)
Ambiguous cases:	auzeti (K.1.1, A10) ¹⁸⁴ kabizeti (K.1.1, A3) ¹⁸⁵

Clearly, a number of these interpretations are mutually exclusive: **auzeti** (K.1.1, A10), for example, cannot be both a thematic subjunctive and a subjunctive in *-se-*.

4.2.1 The *s*-subjunctive in Celtiberian

The forms least controversially considered to be subjunctives in Celtiberian are those which exhibit a morpheme *-se-*, which appears to be comparable not only with the *s*-subjunctive of Irish and a number of subjunctive forms of the Brittonic languages, but also more widely with *s*-aorist subjunctives of other Indo-European languages. That being said, examples of the formation are far from frequent in Celtiberian. The only two reasonably secure examples are found in K.1.1: **ambitseti** (A5), and **robiseti** (A8). Even regarding these forms, there is no *communis opinio* on their etymology, a matter complicated by the fact that K.1.1 does not use the “dual system” of Celtiberian writing, which distinguishes voiceless and voiced stops in some inscriptions.

¹⁸³ Bernardo Stempel (2007)

¹⁸⁴ *s*-subjunctive: K.H. Schmidt (1992:45); Prósper (2007:73). Thematic subjunctive: Rubio Orecilla (1999:109); *KPV* (736).

¹⁸⁵ *s*-subjunctive: K.H. Schmidt (1992:45); Prósper (2007:74–77). Thematic present: *MLH* (V.1:144); *KPV* (224–25).

4.2.1.1 **ambitseti** (K.1.1, A5)

The form **ambitseti** clearly contains the preverb **ambi-**, ‘around’ < PIE **h₂mbʰi*, found also in OIr. *imm-*. Almost all authors have considered this form as a possible subjunctive,¹⁸⁶ with the only significant differences between interpretations being the identity of the root. Identifying the verbal root, however, is complicated by the fact that the syllabogram <ti> could represent either /t̪i/ or /d̪i/. Furthermore, many root-final consonants will have undergone sound changes in combination with suffix-initial **-s-*. If the form]**mbitinkounei** (A6) is related to **ambitseti**, as is generally accepted (McCone 1991:78; *MLH* V.1:22–3; *LIV*²:140–41; *KPV*:276–79; Schmidt 2007a:319; Jordán Cólera 2019:1:205), this would suggest a root with the shape **TiK*. The most widely accepted interpretation of this form is as reflecting a PC **ambi-dix-se-ti* < PIE **h₂mbʰi-dʰigh-se-ti* (*LIV*²:140–41), glossed in *LIV*² as ‘möchte errichten’, and also favoured by Schmidt (2007a:319) and *KPV* (276–79). It is unclear whether the writing of <s> for the inherited cluster /χs/ indicates a simplification from /χs/ > /s/, or is simply an artefact of the script being unable to represent the sequence. Other suggested etymologies have been as an *s*-aorist subjunctive from **tenk-*, ‘make/become solid’ (*LIV*²: s.v. **temk-*) (McCone 1991:78), and as a “dissimilated” reduplicated desiderative **dix-se-ti* < **di-dix-se-ti*, also from **dʰeigh-* (Eska 1989:42–44). McCone (1991:78) notes that the apparent \emptyset -grade of the root in **ambitseti** is aberrant, although it appears to be paralleled in **robiseti**, below, suggesting that the \emptyset -grade may have been generalised for at least some *s*-subjunctive forms in Celtiberian. Rubio Orecilla (2013:703) makes the useful suggestion that the \emptyset -grade in both **ambitseti** and **robiseti** may have been generalised from their present stems, represented in]**mbitinkounei** and **bizetuz**. His suggestion that **ambitseti** therefore represents **ambi-dinχ-se-ti*, with generalised nasal infix, seems unnecessary but cannot be disproven. In summary, **ambitseti** seems likely to be a subjunctive in **-se-*, but its precise semantics are unclear.

4.2.1.2 **robiseti** (K.1.1, A8)

As with **ambitseti**, **robiseti** has been widely accepted as an *s*-subjunctive form since the earliest interpretations of K.1.1, and has faced numerous speculations as to its etymology.¹⁸⁷ It is clear that it contains the preverb *ro-* < PC **φro-* < PIE **pro-*, which in both Irish and Brittonic develops specialised usages alongside the subjunctive. The form has been variously connected with the roots **bʰuh_x-*, ‘be’ (e.g. Fleuriot 1975a:415; Eska 1989:86–90); **bʰeigh_x-*, ‘strike’ (Schmidt 2007a:319); and **bʰeid-*, ‘split’ (*KPV*:224–25). Jordán Cólera, in his recent treatment of Celtiberian language and epigraphy (2019:1:207), remains agnostic as to the etymology. The context of

¹⁸⁶ *MLH* (V.1:23–24) provides a history of the scholarship.

¹⁸⁷ *MLH* (V.1:305–6) provides a history of the scholarship.

robiseti is **ias.ozias.uertatosue.temeiue.robiseti.saum.tekametinas.tatuz**. If **ias.ozias** is taken as the object of **robiseti**, as seems the most likely interpretation, **robiseti** cannot be intransitive, eliminating **b^huh_x-* from consideration.¹⁸⁸ It is, however, difficult to determine which of the remaining two possibilities is more likely. The root **b^heǵid-* (*LIV*²:70–71) forms a root-aorist *abhet* in Vedic, but could have received an *s*-subjunctive secondarily within Proto-Celtic. A possible *s*-aorist of **b^heǵih_x-* is attested in OCS 3pl. *bišę*, but since the *s*-aorist was sufficiently productive in Proto-Slavic to become the basis of the highly productive preterite in *-x-* (Langston 2018:1553), it is possible that this was a creation of Slavic alone. Consequently, **robiseti** could easily represent either PC **φro-beǵid-se-ti* < **b^heǵid-se-ti* or, with rather more phonological difficulty, **φro-beǵ-se-ti* ← **φro-beǵa-se-ti* by analogy with the PC *s*-aorist 2sg. **bǵi-s-s* < **b^heǵih_x-s-s*, 3sg. **bǵi-t^s* < **b^heǵih_x-s-t*, 2pl. **bǵi-t^se* < **b^heǵih_x-s-te*, by laryngeal loss between **Eǵi* and one plosive or two obstruents (Zair 2012a:240–43). Since the validity of such a law is by no means certain, however, and the derivation rather convoluted, it is perhaps safer to assume, with *KPV* (224–25), that **robiseti** reflects **φro-beǵid-se-ti*, with generalised *ø*-grade of the root, probably from the present stem seen in 3sg. impv. **bizetuz** (Rubio Orecilla 2013:703).

4.2.2 The thematic subjunctive in Celtiberian

4.2.2.1 **bionti** (K.1.1, A7)

This form has been variously interpreted as a 3pl. subjunctive from the root **b^huh_x-*, ‘be’ (Rubio Orecilla 1999:108; 2013:711), a 3pl. subjunctive from **b^heǵih_x-*, ‘strike’ (*KPV*:229), and as a 3pl. thematic indicative from **b^huh_x-* (Jordán Cólera 2007:793).

The first of these etymologies takes **bionti** as a root-aorist subjunctive, i.e. < PC **bū(y)onti* < PIE **b^huh_x-o-nti*. Phonologically, this is difficult to substantiate, since there is no evidence for a change Proto-Celtic **ū* > Celtiberian /ī/ or /i/. Admittedly, there are few secure Celtiberian etymologies containing Proto-Celtic **ū*, although the numerous 3sg. imperatives in **-tuz** attested in the language seem to reflect PC **ū* < PIE **ō*. Additionally, Blažek (2007:16) suggests that **tunares** (K.0.14) might be a nominal compound < **d^hūnā-h_xreǵs*, ‘lord of a fortification’, but the same form has also been suggested to be a verb (Wodtko 2003:20). A further difficulty is that the second element of Blažek’s compound is usually reconstructed as **h_xreǵs*, with *ē*-grade vocalism in Proto-Indo-European, which would be expected to yield Proto-Celtic **rīχs* > Celtiberian **dūnāris*, <**tunaris**>. Nonetheless, in the absence of positive evidence for a change PC **ū* > Celtiberian /ī/, the suggestion that the form is a subjunctive of the verb ‘to be’ is rather difficult to sustain. The

¹⁸⁸ The forms **uertatosue.temeiue** would then be nouns (gen. sg. and loc. sg. respectively?), attributive to **ozias**, i.e. ‘whichever *ozias*, whether *uertatos* or *temei*, (s)he may strike/split(?), (s)he must give tithes of them(?)’.

only other way to maintain a root-aorist subjunctive interpretation requires the assumption that inherited subjunctive stem **bū̄-* was remodelled on the basis of the present indicative in Celtiberian, which is likely to have been **biġ^e/o-* < PC **bū̄-iġ^e/o-* < PIE **b^huh_x-iġ^e/o-*, a formation also attested in Goidelic, Brittonic and possibly Gaulish (KPV:241, 246). Such a development seems unlikely, since it would have caused homomorphy between the indicative and subjunctive stems, i.e. both would be thematic stems with the root **biġ-*. An interpretation as a root-aorist subjunctive from **b^huh_x-* consequently cannot be upheld.

Although initially appealing, the connection with the root **b^heġh_x-*, ‘strike’, does not stand scrutiny much better. Schumacher (KPV:229) compares **bionti** with OIr. *benaid*, ‘strike’, the 3pl. subjunctive of which would be **biait*, **-biat*, and derives both from a Proto-Celtic root-aorist subjunctive **biġ^e/o-* ← PIE **b^heġh_x-e/o-*, corresponding to a nasal present **bi-na-* < **b^hi-ne-h_x-*, ‘schlagen’. Despite the formal correspondence between the Celtiberian and Irish forms, other morphological, semantic, and syntactic considerations make his interpretation less tenable. Schumacher (KPV:229) makes a valid point when he notes the structural parallels between the clauses introduced by **iom** in **iom.arznas.bionti.iom.kustaikos.arznas.kuati**, i.e. they are both of the structure **iom (...)** **arznas**, followed by a finite verb.¹⁸⁹ He consequently suggests that **bionti** probably represents a transitive verb, since **kustaikos** appears to be the subject of **kuati** in the second clause. Since **kuati** is inflected as 3sg. active, **arznas** would then be the object of the verb. It should be noted, however, that the case of **arznas** is not as transparent as Schumacher’s interpretation would suggest. Indeed, it cannot be said with any certainty that the noun **arznas** is accusative in either clause, making its function in relation to the verb unclear. This is due to the fact that the nominative and accusative plural forms of *ā*-stem nouns would be expected to fall together in Celtiberian: both nominative plural **-eh₂-es* and accusative **-eh₂-ns* would be expected to yield Proto-Celtic and Celtiberian **-ās*. Furthermore, the genitive singular of *ā*-stem nouns would also have been **-ās*. Even if the structures are superficially parallel, therefore, that does not entail that the noun **arznas** fulfils the same function in both phrases. It need not even be accusative in the second clause, where it could be a genitive singular qualifying **kustaikos**, and **kuati** would consequently be an intransitive verb. There is consequently no compelling reason to assume that **bionti** must be transitive, weakening the argument for a derivation from **b^heġh_x-*.

There is also no incontrovertible reason to read **bionti** as a subjunctive. The broader syntactic context of the form **bionti** is the following:

¹⁸⁹ “da jedoch der Satz *iom arđnas bionti* und der darauffolgende Satz *iom kustaikos arđnas kuati* ‘wenn der *kustaikos* die *arđnas x-t*’ einen parallelen Bau aufweisen, ist es wahrscheinlicher, dass *bionti* transitiv ist.”

iomui.lists.titas.zizonti.somui.iom.arznas.bionti.iom.kustaikos.arznas.

kuati

(K.1.1, A7-8)

The pronominal forms **iomui** and **somui** (masc./neut. dat. sg.) here form a correlative structure, which has parallels in other Indo-European languages, e.g.:

yáh súrīyam jajána ..., sá janāsa Índrah

“**who** created the sun ..., **that**, o people, (is) Indra”

(Rigveda 2, 12.7)

The verb **zizonti** in the relative clause introduced by **iomui** is probably a 3pl. present indicative form, but has been interpreted by some as subjunctive (4.2.2.2). Even if a subjunctive reading were accepted, however, it is worth noting that in OIr. and MW legal texts it is often the relative clause of a correlative that contains a verb in the subjunctive, and the main clause an indicative, e.g.:

... cip é foda-rothlae no roda-gatta di-ren-side amal bid a treib rosn-uccad...

“... whosoever **carries them off** or whosoever **steals them**, he pays for them as if it were from a house that he had taken them...”

(BB:§50)

Y neb a laddo dyn, i syrhaed yn gyntaf a delir, oddyna i alanas.

“Whoever **may kill** a man, his *sarhaed* is paid first, and then his *galanas*.”

(LP:§69)

If the first Botorrita Bronze is a legal text, as its context and form would suggest (cf. Meid 1994a), it might be expected that it would contain similar formulae to those found in legal texts in other Celtic languages. Consequently, even if **zizonti** were to be interpreted as subjunctive, this does not necessitate interpreting **bionti** and **kuati** as subjunctive also.

That **bionti** is 3pl. and that there is no other overt subject of the verb suggests that **arznas** is indeed nom. pl. here. We should perhaps follow Jordán Cólera (2007:793), therefore, and take **bionti** as a 3sg. thematic present from the root **b^huh_x-*, specifically a **-j^e/_o-*present, cognate with OIr. 3pl. consuetudinal present *biit*. There are two possibilities attached to such an interpretation. The first is that the phrase **somui ... bionti** represents a periphrastic verb ‘to have’, a construction well-attested in the other Celtic languages. The other is that, since this is the first mention of **arznas** in the inscription, this clause might simply be introducing a change of focus, and could be read along the lines of ‘when there are **arznas**, and when the **kustaikos** x-s the **arznas**...’.

In conclusion, an etymology of **bionti** either from **b^he_ǵh_x-e/o-* or from **b^huh_x-i^e/o-* is phonologically viable. There is little in the surrounding syntax to favour one etymology over the other: although **bionti** need not be transitive, it still could be. The fact, already discussed at 4.2.1.2, that **b^he_ǵh_x-* is otherwise attested with an *s*-aorist rather than root-aorist perhaps swings the balance of probability in favour of an analysis of **bionti** < **b^huh_x-i^e/o-*.

4.2.2.2 **zizeti** (Plomo de Iniesta, A5), **zizonti** (K.1.1, A7)

The forms **zizeti** and **zizonti** are generally taken as reduplicated formations (Jordán Cólera 2019:1:211–12), derived from either **deh₃-*, ‘give’ (Greek δίδωμι, Sanskrit *dádāmi*), or from **d^heh₁-*, ‘put’ (Greek τίθημι, Sanskrit *dádhāmi*).^{190, 191} Since only intervocalic and word-final PC **d* > Clb. /ð/, we would predict **diðeti*/**diðonti*, spelled <**tizeti**>/<**tizonti**>, but analogical extension of the root-initial consonant quality to the reduplication syllable has parallels in e.g. Latin *bibit* ← **pibeti* < **pi-ph₃-e-ti*. Although both **deh₃-* and **d^heh₁-* form athematic reduplicated presents in various Indo-European languages, these are frequently thematised in the individual branches. If this verb had preserved athematic inflection, we should expect to find Clb. 3sg. ind. **ðiðāti*/**ðiðīti* ← **di-deh₃-ti*/**d^hi-d^heh₁-ti*, 3pl. **ðiðonti*/**ðiðenti* ← **di-dh₃-énti*/**d^hi-d^hh₁-énti*.

It is difficult to identify the mood of **zizeti** and **zizonti**. Prósper (2007:35–38) takes **zizeti** as subjunctive because it follows the form **iskuez**, which is similar to **oskuez**, attested twice on K.1.1. These forms have been interpreted by some as indefinite pronouns (3.2.2.2), but there is no reason to think that they required a subjunctive verb. Although the second attestation is before the subjunctive **ambitseti** (K.1.1, A5), the first precedes the verb **uerzoniti** (A3), which displays no subjunctive morphology, and is most likely an indicative in **-e_ǵe-ti* or a denominal formation (MLH V.1:445–46; Jordán Cólera 2019:1:208). The thematic vowel **-e/o-* in **zizeti** and **zizonti** could indicate that these forms are subjunctive, but further morphological considerations suggest that an indicative interpretation is more likely to be correct, and at the very least demonstrate that the thematic vowel is not diagnostic of the forms as subjunctive.

Rubio Orecilla (1999:109, prior to the publication of the form **zizeti**), compares **zizonti** with OAv. 3pl. subj. *dadān*, ‘will/would give’ (Vedic *dadhan*), deriving both from a \emptyset -grade reduplicated present subjunctive **d(i/e)-dh₃-o-nt(i)*/**d^h(i/e)-d^hh₁-o-nt(i)*. He likewise gives a subjunctive

¹⁹⁰ Sanskrit *dádāmi* continues **dé-deh₃-mi*, rather than **di-deh₃-mi*. It is unclear whether reduplication syllables in athematic reduplicated presents originally contained **e* or **i*: the variation seems to date to PIE, possibly without synchronic functional motivation, cf. the variation between Hittite *hi*-verbs *wewakki*, ‘demands’ and *lilḫuwai*, ‘pours’.

¹⁹¹ Earlier interpretations took the root as **steh₂-*, ‘wohin treten, sich hinstellen’ (LIV²:590) or **seh₁-*, ‘eindrücken’ → ‘säen’ (LIV²:517–8), but lack of evidence for <**z**> < **s* renders these obsolete.

analysis for **zizeti** (2013:708–9), following Prósper (2007:35–38). As seen in 1.3.1.3, however, the subjunctive is generally formed to the strong stem, i.e. **d(i/e)-deh₃-e-t(i)/*d^h(i/e)-d^heh₁-e-t(i)*, which should have been phonotactically viable in Proto-Indo-European. Other Indo-Iranian reduplicated present subjunctives show *e*-grade vocalism, e.g. YAv. *cikaiiat*, ‘will/would atone’ < **k^ui-k^uej-e-t(i)*; Vedic *babhasat*, ‘will/would devour’ (ind. *bábhasti*), unless they reflect PIE roots of the shape **CVH*, e.g. Vedic 3sg. mid. *rárate*, ‘will/would give’ < **ré-rh₁-e-toi*. Since the PIE laryngeals were presumably still phonemic in early Proto-Celtic and Proto-Indo-Iranian, evidenced by their distinct reflexes in the attested languages, the *dad(h)at*-type subjunctives are likely an Indo-Iranian development. The expected PIE present subjunctive **de-deh₃-e-t(i)* would yield early PIIr. **da-daH-a-t(i)*. If Lubotsky (1995) is correct that Proto-Indo-Iranian lost intervocalic laryngeals, the resulting **dadaat(i)* would have been minimally distinct from the corresponding indicative/injunctive **dadaHt(i)*, especially if **H* already caused phonetic lengthening of the preceding vowel in such positions, i.e. if */*dadaHt(i)/* was phonetically */*dadā(H)t(i)*.¹⁹² The ensuing ambiguity might have been eased by replacing **dadaat(i)* with **dad(H)at(i)*, generalising the weak stem.¹⁹³ Regardless of whether the above is correct, it seems that Rubio Orecilla’s parallel between **zizeti/zizonti** and OAv. *dadat/dadān* (Vedic *ad(h)at/dad(h)an*) cannot be upheld: there is simply no reason for the replacement of regular **de-deh₃-e-t(i)* until after intervocalic laryngeals were lost, which was evidently post-PIE. With the comparison removed, there is little reason for reconstructing a \emptyset -grade present subjunctive **d(i/e)-dh₃-e-ti/*d(i/e)-dh₃-o-nti* as the ancestor of Clb. **zizeti/zizonti**. It seems more likely that **zizeti/zizonti** represent a secondarily thematised present, where 3pl. **di-dh₃-énti* > PC **didonti* was the pivot form, leading to the replacement of inherited **didāti*¹⁹⁴ < **di-déh₃-ti* on the basis of the analogy **beronti : *didonti :: *bereti : X → *dideti*.

It might be objected that Proto-Celtic could have independently developed a \emptyset -grade subjunctive **dideti/*didonti*, but it is difficult to how this might have taken place. As seen already, the PIE indicatives **di-déh₃-ti*, **di-dh₃-énti* would yield synchronically irregular PC **didāti*, **didonti*.¹⁹⁵

¹⁹² Although we cannot know when PIIr. **H* was lost in **VHC* environments, correspondences like Sanskrit *mātā* ~ Avestan *mātā* < **maHtā* < **meh₂tēr* might imply that its loss was preceded by lengthening of the preceding vowel, which may already have been (sub-)phonemic in PIIr. Farsi presents a typological parallel (Bijankhan 2000; Sadeghi and Bijankhan 2007): preconsonantal glottal stops (Lubotsky 2018:1881 identifies PIIr. **H* as [ʔ]) in syllable coda are progressively weakened, with concomitant vowel lengthening.

¹⁹³ Replacement of **dadaat* might have been further motivated by analogy: ind. **b^harati* : subj. **b^harāt(i)* :: **dadaHti* [**dadā(H)ti?*] : X → **dadāt(i)*.

¹⁹⁴ Other persons would be similarly irregular: 1sg. *didāmi*, 2sg. *didāsi*; 1pl. *didāmosi*, 2pl. *didātesī*.

¹⁹⁵ If **zizeti** < **d^heh₁-*, the regular development would have been similarly aberrant: **didīti*, **didentī*.

Precisely how **di-deh₃-e-ti* would develop is unclear, since the only Celtic form continuing PIE **VHV* is OIr. *á*, ‘wagon’ < PC **iās* < **ieh₂-es-* (Watkins 1978:161; Zair 2012a:169), but it appears that the result would have been **didāeti* > **didāti*, falling together with the 3sg. indicative. Similarly, 3pl. **di-deh₃-o-nti* would probably yield **didānti*. Given that the subjunctive would have been marked with **-ā-* in all forms but the 1sg., and that reforming the subjunctive to a stem **did-* would have caused homomorphy with the 3pl. indicative **didonti*, it would have been easier for speakers to thematise the indicative as described above, and to tolerate an irregular subjunctive for this verb.

Ultimately, the interpretation of **zizeti** and **zizonti** as a 3sg./pl. subjunctives from the roots **d^heh₁-/*deh₃-*, ‘put’/‘give’ (Prósper 2007:35–38; *KPV*:718–19; *MLH* V.1:100; Rubio Orecilla 2013:708) can neither be confirmed nor precluded. It seems quite unlikely, however, that subjunctives to present stems should be preserved in Celtic, and the fact that both of these roots end in a laryngeal makes it impossible to be sure that they are subjunctive.

4.2.3 The *ā*-subjunctive in Celtiberian

Several forms in the Celtiberian texts display a vowel transcribed as <a> before the verbal desinence. It has long been believed that such forms can be identified with the *ā*-subjunctive of Irish, on the presumption that they were inherited by both Celtiberian and Irish from Proto-Celtic, and ultimately from Proto-Italo-Celtic. Perhaps the most vocal proponent of this theory in the 20th and 21st centuries was K.H. Schmidt, who explicitly claimed “Auf Grund der Faktenlage [i.e. the existence of these Celtiberian forms and Gaulish *lubiias*] ist deshalb für das Keltische an dem auch für das Italische und Tocharische bezeugten *ā*-Konjunktiv festzuhalten” (2007b:270–71). This presumption that the existence in Proto-Celtic of an *ā*-subjunctive can be taken for granted when working with Celtiberian data appears to have been followed, either as a result of Schmidt’s work or independently, by a number of scholars, including Prósper (2007:35–36), Bernardo Stempel (2007 *passim*), Rubio Orecilla (1996:184–85), and Jordán Cólera (2007:789). Outside of the Hispanic tradition of Celtic studies, Eska (2003:10–11) has also entertained the idea that the continental Celtic languages may attest an *ā*-subjunctive.

It should be remembered that when Schmidt cites Celtiberian and Gaulish to support the reconstruction of a Proto-Celtic *ā*-subjunctive, he is attempting to refute the system of classification of Celtic subjunctive forms suggested in *KPV*. Schumacher (*KPV*:49–55) reconstructs two sigmatic subjunctive morphemes for Proto-Celtic, **-se/o-* and **-ase/o-*, alongside a root-aorist subjunctive in **-e/o-*, building on the reconstructions proposed by McCone (1991), largely based on the comparison of Irish and Brittonic data with those of other Indo-European languages. It would seem to be methodologically suspect to attempt to undermine such reconstructions with the evidence of Celtiberian and Gaulish alone. Since these languages are

poorly understood, and so little of the syntactic context in which the forms are found can be reliably interpreted, one cannot say with any real certainty whether a given verbal form in Gaulish or Celtiberian is indicative or subjunctive. It would seem rather more methodologically sound to use our knowledge of the morphology and syntax of the better understood insular Celtic languages, alongside securely reconstructed Proto-Indo-European morphology, to inform any interpretations of the continental Celtic data. This approach will be followed here.

The forms in question are **asekati** (K.1.1, A6), **kuati** (K.1.1, A8), **susati** (K.7.1), **auzanto** (K.1.3H). At the outset it should be noted that none of these forms has a secure etymology: although several have been proposed, no consensus has been reached. It is consequently very difficult to connect them with forms in other Celtic languages which might support the interpretation of these forms as inherited \bar{a} -subjunctives.

4.2.3.1 asekati and kuati

These two forms, both from K.1.1, have been considered by a number of scholars to be subjunctives, principally due to their syntactic context. The form **asekati** is found in the phrase **iom.asekati[.a]mbitinkounei**, which appears to be a similar construction to **iom.arznas.bionti.iom.kustaikos.arznas.kuati** (K.1.1, A7-8). The interpretation of **asekati** and **kuati** as subjunctives consequently hinges on the interpretation of the form **bionti**, which is by no means certainly subjunctive (4.2.2.1). It also depends on the idea that **iom**, formally the masculine accusative singular of the relative pronoun **ios** (K.1.1, A10), has become petrified as a conjunction requiring the subjunctive. Such an assumption is difficult to prove with so few data, and it is perfectly possible in the case of **iom asekati** that the relative pronoun could be referring to **sailo** (*o*-stem genitive singular), which appears a few words prior. Furthermore, if **bionti** is taken as an indicative, we are not compelled to interpret either **asekati** or **kuati** as subjunctive.

4.2.3.1.1 asekati

Regarding **asekati**, it should first be noted that this form appears next to the break in the bronze support of the text, and there is a corroded area following the syllabogram <ti>. It is consequently possible that at least one grapheme has been lost to the break and corrosion, since, although the two pieces fit quite well to each other, the fit is not perfect. It is uncertain, therefore, that **asekati** is a complete form. Most scholars have taken **asek-** as representing the preverb **ad-*, followed by a root of the shape **seK-*. For Meid (1994a:23) the root in question is **sek-*, ‘to cut’, while others have seen the root in question as **seġh-*, ‘überwältigen’ (*LIV*²:515–6) (Eska 1989:170; Rubio Orecilla 1996:184). For her part, Prósper (2012:7) suggests **ad-s(φ)ek-ā-jē-ti* ‘should envisage’, seemingly an optative in **-jeh₁-* to a weak verb in **-ā-*, derived from **spek̂-*, ‘schauen’ (*LIV*²:575–76). If Meid’s identification of the root is correct, it is noteworthy that *LIV*² (524) reconstructs a

final laryngeal for this root, meaning that **asekati** could simply be an athematic present **ad-sekh_x-ti*. Additionally, if the final laryngeal of the root were **h₂*, the form could also be thematic, even subjunctive, with **-sekh₂-e-ti* > **-sek-a-ti*. Although Prósper's etymology seems exceptionally unlikely, given both the lack of attestation of the optative in Celtic and the absence of any trace of the optative suffix **-ieh₁-* (> PC **-iī-*) in the form, it also presents the possibility of interpreting **asekati** as a weak verb, of the type well attested in e.g. OIr. *marbaid*, OW *canam* (EGOW:21). Consequently, several viable alternatives to an interpretation of **asekati** as a subjunctive exist, and given the etymological uncertainty it is safer to presume that it is not subjunctive.

4.2.3.1.2 **kuati**

As with **asekati**, **kuati** has no clear etymology, complicating speculation as to its morphology. Early analyses suggested a possible connection with PIE **g^ueh₂-*, 'treten' (LIV²:205), but given that **g^u* > **b* appears to be a Proto-Celtic change, this is unlikely. Untermann (MLH IV:571) suggests that **kuati** might be related to the form **GUANDOS** (K.3.13), but given its lack of context, this form provides no further clues as to the semantics or etymology of **kuati**. McCone (1996b:13) suggests an interpretation as /g^uanti/ ← **g^uhen-ti*, but <n> is generally written before stops in K.1.1. In morphological terms, if this form were to be treated as an *ā*-subjunctive it would be segmented as **Kū-ā-ti*, which would appear to imply an underlying root with either final **u*, **u* or **uh_x*. Moreover, if the form is to be compared with the Irish *ā*-subjunctive, a pre-form with radical *e*-grade should be sought, cf. OIr. 3sg. subj. *at-bela*, 'though he die' (Sg.30a3) < Pre-Irish **bel-ā-t*, vs. ind. *at-baill* < **bal-nī-t* < **g^ul_o-né-h₁-ti*. Since PC **-ou_x-* < PIE **-eu_x-* appears to be preserved in Celtiberian (cf. **loukaniko** K.1.3, II-3 < **leug/k-*, etc.), it seems unlikely that **Kū-* can reflect PIE **Keu-*. Only a sequence **-uh_x-* could produce PC **-ū-* in a non-final syllable, so if the root is **Kū-* this must reflect earlier **Kuh_x-*, since **Keu_h_x-* would probably yield PC **Koua-*. It would seem unlikely, then, that **kuati** can represent an *ā*-subjunctive comparable with those of Irish, since it cannot have an *e*-grade root before the modal suffix, which, in the absence of other criteria, must be treated as diagnostic. It is probably better to see this form as either an athematic root present, either **K^ueh_{2/3}-ti*, or perhaps **K^(u)u_ua-ti* < **K^ueu_h_x-ti*, if raising of PC **K^uou_x-* > Celtiberian **K^(u)u_u-* is considered possible, cf. Latin *cum* < OLat. *quōm*. Alternatively, **kuati** might be a weak *ā*-present, possibly denominative, to an unidentified root **K^(u)ū-*.

4.2.3.2 **susati**

This form is found on a spindle-whorl (K.7.1), and the text does not employ word division. The text as given in MLH is:

A: **susatikalim**

B: **uta/as** or **as/uta**

Although spindle-whorls from Gaul are known for bearing (sometimes lewd) graffiti, the type is almost unparalleled in the Celtiberian corpus: the only other in *MLH* is K.1.6. It is therefore impossible to say what content might be expected on a typological basis. The lack of word-division also leaves us uncertain as to whether it is correct to segment face A as **susati kalim**. The only treatment of this form other than *MLH* appears to be Lejeune (1955:111), where he briefly provides a few possible underlying roots: “**seu*- ‘biegen ...’ ..., **speu*- ‘eilen’ ..., **swep*- ‘schwingend werfen’”. If **susati** is a verbal form, however, its apparent *u*-reduplication is exceptionally unusual, without ready parallels. For the reasons raised in the discussion of **kuati**, it is also unlikely to contain an *e*-grade root, making it a poor formal match for an Irish \bar{a} -subjunctive. The uncertainty about the segmentation of the text, alongside the morphological and lexical identification of **susati**, means that it is very weak evidence for the existence of a Celtiberian \bar{a} -subjunctive.

4.2.3.3 **auzanto (and related forms)**

The form **auzanto** (K.1.3, Heading) has been linked with several other verbal forms in Celtiberian. The most secure among these is **auzeti** (K.1.1, A10), but other suggested members of its paradigm include **auza[to?/ti?]** (K.2.1), **auzares** (K.0.14, B2, B4) and **auzu** (K.5.1), and the apparently abbreviated form **auz** (K.0.8, 2, K.5.1). Jordán Cólera (2015) has also proposed seeing **audintum** (Latin script) from the Novallas Bronze as a genitive plural participle of this root.

In terms of the etymology of the root, three principal suggestions have been made in recent literature. Rubio Orecilla (1996) essentially takes **auzanto** as representing **h₂e_u-dh₃- η to*, a 3pl. middle aorist to **deh₃-*, ‘give’. This interpretation is tentatively preferred by *MLH* (V.1:52). Jordán Cólera (2015) takes a similar approach to Rubio Orecilla, but analyses **auzanto** as **h₂e_u-d^hh₁- η to*. Since the roots **deh₃-* and **d^heh₁-* would have been largely homophonous in Proto-Celtic, it is difficult to determine which of these suggestions is more likely to be correct. Bernardo Stempel (2007:58–59), who maintains the belief that Celtiberian <z> can reflect PC **s*, identifies **auzanto** as a 3pl. middle subjunctive of the root **h₂e_us-*, ‘schöpfen’ (*LIV*²:275–76). Similarly, Prósper (2007:73) takes <z> as reflecting **s*, but identifies **auzanto** as an *s*-aorist **h₂e_u-s- η to*, to the root **h₂e_u-*, which she glosses as ‘requerir’, but *LIV*² (274) as ‘genießen’.

Both Bernardo Stempel and Prósper’s etymologies face rather significant issues, not limited to the lack of good evidence for **s* > Celtiberian <z>, a development further undermined in this case if Jordán Cólera identifies **audintum** as part of this paradigm correctly. For Prósper, both the root semantics and the formations attested of her preferred root serve to cast doubt over her

etymology. It is particularly difficult to see how a root with the semantic range ‘enjoy, desire, eat’ (LIV²:274) would fit all of the contexts in which the form is found, even if it is assumed that the semantics developed towards simple ‘want’. Furthermore, no *s*-aorist is attested for this root, which is anyway very poorly preserved, found only with any security in Vedic *āvayat*, ‘(s)he ate’ and Latin *aueō*, ‘desire’, < **h₂ou-éjē/o-*. Prósper’s etymology should be dismissed, therefore, as highly improbable.

Regarding Bernardo Stempel’s interpretation, in the first instance, the form **auza** [K.2.1] – which she interprets (2007:63–64) as a 3sg. active/middle subjunctive – is from too fragmentary a context to be probative. The preserved text, on a ceramic fragment, is the following:

]etukenosauza [K.2.1]

She proposes the restoration, segmentation and translation **r]etukenos auza[ti/to**, “Rectugenos may scoop up (for himself)”, but since less than a quarter of the potential inscribed surface survives,¹⁹⁸ it is presumptuous to assume that there is sufficient material to make a segmentation, let alone an interpretation. Similarly, the abbreviated form **auz** in K.0.8 provides no morphological material to diagnose its mood, rendering it inadmissible as evidence.

Bernardo Stempel’s interpretation also faces the fundamental problem that her principal comparisons, between **auzu/auzeti/auzanto** and Latin *haurio/haurit/hauriant* are not really comparable. She suggests that **auzu** and **auzeti** represent thematic present indicatives, derived from **h₂eūs-e/o-*. There is no evidence, however, for such a formation: Latin *haurio* and Palaic *hussīnta* point towards **h₂us-ǵé/o-* as the form in Proto-Indo-European (LIV²:s.v. **h₂eūs-*), and Greek αὔω can be derived from either **h₂us-ǵé/o-* or **h₂éūs-e/o-*, so it provides no positive evidence for the reconstruction of a simple thematic present for the parent language.¹⁹⁹ In addition, her interpretation would make **auzanto** the only Celtiberian subjunctive of *any* type to show a secondary ending, which should at least give pause for consideration.²⁰⁰ An interpretation as an *ā*-subjunctive should, therefore, be excluded.

It seems more sensible to follow either the interpretation of Rubio Orecilla or Jordán Cólera. If **auzanto** is interpreted as a 3pl. aorist middle **h₂eū-d^(h)h_{1/3}-ŋto*, ‘they put/gave away’, then **auzeti** can be interpreted as a 3sg. active subjunctive **h₂eū-d^(h)h_{1/3}-e-ti*. This would fit the context in which it is found, a relative clause – presumably generalising – prior to a 3sg. imperative **tatuz**,

¹⁹⁸ The arc of the surviving fragment is c.80°, of a presumably 360° surface.

¹⁹⁹ The *e*-grade root in Latin *haurio* can perhaps be explained as analogical to the perfect *hausi* < **h₂eūs-s-*.

²⁰⁰ Bernardo Stempel treats the forms in final <**ti**> as containing *Stummvokale* (2007:64), but there is simply no good evidence for this.

‘(s)he must give’. The sequence **tokoitei.ios.ur.antiomue.auzeti.aratimue.tekam.etam.řatuz** (K.1.1, A10) would consequently be interpreted as “whosoever puts/gives either an *urantiom* or an *aratim* in the *tokoitei*, let him give a tithe”. To conclude, **auzanto** appears best interpreted as a 3pl. aorist middle indicative, while **auzeti** is more likely to be the 3sg. active subjunctive corresponding to the same verb.

4.2.4 Ambiguous forms

Since **auzeti** has already been interpreted as the root-aorist thematic subjunctive of $*a\check{u}-d^{(h)}h_{1/3}$ -, the only remaining ambiguous form listed above is **kabizeti**. This form has been frequently equated with PC $*gab$ -, ‘take’, and described as an *s*-subjunctive built to the present stem $*gab-\check{i}^e/o-$ (e.g. Schmidt 1986:170ff; McCone 1991:77–78; Meid 1994a:20). The lack of reliable evidence for Celtiberian $\langle z \rangle < *s$, however, makes this seem untenable. Alternative etymologies have also not proved very satisfying, however. *KPV* (225) suggests deriving **kabizeti** from $*k\check{m}-bid-e/o-$, with the \emptyset -grade of the preverb $*kom$ -, but this would be expected to yield PC $*kam$ -, and K.1.1, where **kabizeti** is found, often writes etymological $*-mb$ -, e.g. **ambitseti**, although it is possible that it was omitted in this case. As *MLH* (V.1:144) suggests, it is also possible that **kabizeti** is a denominative $*kabid-eje-ti$, although the meaning of the noun in question would be unclear. Ultimately, the interpretation of the form is unclear, and even if it were interpreted as a subjunctive in $*-se$ -, this would not significantly alter the resulting reconstruction of the Celtic verbal system, although it would affect the interpretation of Celtiberian orthography.

4.3 Conclusions

The evidence of the continental Celtic languages appears to lend itself to the reconstruction of two thematic subjunctive categories. The first displays a suffix $*-se/o-$, comparable with the *s*-subjunctive of Irish and Brittonic, and is attested in Celtiberian **ambitseti** and **robiseti**, and probably in Gaulish **řexsetesi**, **řexetesi**, and perhaps *scrisumio*. The second has a simple thematic suffix $*-e/o-$, and is attested in Gaulish **bueti**, and its compounds, and perhaps **biřetutu/biřontutu**, if treated as root-aorist subjunctives of $*b^he\check{i}h_x$ -. In Celtiberian, the most likely attestation of this formation appears to be **auzeti** $< *h_2e\check{u}-d^{(h)}h_{1/3}-e-ti$, but it may also be found in **bionti**, again if from $*b^he\check{i}h_x$ -.

5 Conclusions

5.1 Reconstructing the Proto-Celtic Subjunctive

5.1.1 The *s*-subjunctive

Bringing together the evidence of both Insular and Continental Celtic,²⁰¹ a reconstruction of the Proto-Celtic subjunctive can now be attempted. The most noticeable difference between the Insular and Continental material is that, as far as the material permits a judgment to be made, the *s*-subjunctive appears to have been the productive form in the Continental languages. Nonetheless, the Gaulish evidence appears to corroborate that of Insular Celtic, that the *s*-subjunctive was a thematic formation with an *e*-grade root. The Celtiberian *s*-subjunctive appears to have \emptyset -grade of the root, based on the small sample of **ambitiseti** and **robiseti**, which might be taken as a sign that the subjunctive originally had **e~* \emptyset* root ablaut. Given that root ablaut is unexpected in thematic formations, however, it is perhaps more probable that this simply reflects an analogical extension of the present-stem vocalism (cf. inf. **ambitinkounei**, impv. **bizetuz**), as suggested by Rubio Orecilla (2013:703). More importantly, Celtiberian and Gaulish both seem to support the reconstruction of primary endings for the *s*-subjunctive in Proto-Celtic, based on the Celtiberian forms just given and Gaulish forms such as **íexsetesi** (4.1.1.2). Since the development of the absolute-conjunct system in Insular Celtic obscures this contrast, the Continental data here provide crucial input to the reconstruction of the Proto-Celtic *s*-subjunctive.

Consequently, the following formulaic reconstruction of the Proto-Celtic 3sg. *s*-subjunctive is proposed: **CeC-se-ti*.

5.1.2 The \bar{a} -subjunctive

As shown in Chapter 2, the Insular Celtic case for an \bar{a} -subjunctive is not strong, given that it relies on the evidence of Irish alone, ignoring the fact that this morpheme is unattested in Brittonic. The Continental Celtic material, although more challenging to interpret, does not appear to strengthen the case for a Proto-Celtic \bar{a} -subjunctive, since the only possible examples are to forms without a certain etymology. These forms are also a poor formal match for the Irish \bar{a} -subjunctive, which was seen above (2.2.2) to have an *e*-grade root in primary verbs. The reconstruction of an \bar{a} -subjunctive for Proto-Celtic should not be maintained, therefore.

²⁰¹ The reader is reminded that these are geographical and temporal designations, rather than phylogenetic (cf. 1.2.1).

Curiously, there is no evidence (*pace* Isaac 2001) in Continental Celtic for the suffix **-ase^e/o-* proposed for the Irish *ā*-subjunctive and Brittonic *h*-subjunctive. This might be due to the fragmentary attestation of the languages, meaning that they possessed the suffix, but it is not preserved in the inscriptional record. Alternatively, the suffix **-ase^e/o-* might be taken as an Insular Celtic innovation, and thus provide evidence for a Proto-Insular-Celtic node in the Celtic family tree. Unfortunately, until more Continental Celtic material is discovered and published, this problem will remain unsettled. We might, therefore, tentatively reconstruct a Proto-Insular-Celtic subjunctive **CeC-ase-ti*, with the possibility of pushing the suffix back into Proto-Celtic if it is found in new Continental Celtic material.

5.1.3 The root-aorist subjunctive

A thematic subjunctive built directly to the verbal root is found in Irish, Brittonic, Gaulish and Celtiberian. The strongest evidence for this formation is in the root **bū-*, with reflexes in Irish *beith* and Gaulish **bueti** < **buuēti*, and MW *bych* < **buesi*. It seems that this root-aorist subjunctive, like the *s*-subjunctive, took primary endings in Proto-Celtic (3.1.2.1.5; 4.1.3.1). A root-aorist subjunctive of **bū-*, with 3sg. **buuēti*, should consequently be reconstructed for Proto-Celtic.

The case for a root-aorist subjunctive is less compelling for other roots, but there are a few promising candidates. As Schumacher suggests (*KPV*:416), some forms of the subjunctive of OIr. *ro-cluinethar* are inexplicable if derived from an **ase*-subjunctive **kloy-ase^e/o-* (2.2.3). Despite the lack of evidence from other Celtic languages, there is consequently a case to be made for a root-aorist subjunctive **kloy-e^e/o-*, particularly given the fact that PIE **kley-* forms a root-aorist in several other branches of the family (*LIV*²:334). Similarly, a derivation of MW *el* and similar Brittonic forms from **pelh₂-e-ti* seems significantly more tenable than any treatment of this form as reflecting an *ā*-modal (*pace* Jasanoff 1994). The root **pelh₂-* forms a root-aorist elsewhere in Indo-European, and there is no other evidence for an *ā*-subjunctive in Brittonic to support Jasanoff's interpretation. Both of these forms, if accepted as root-aorist subjunctives, would suggest reconstructing *e*-grade ablaut for the Proto-Celtic formation outside of the apophonically deviant root **bū-*. Celtiberian **auzeti** might also be added to the dossier of root-aorist subjunctive forms (4.2.3.3). If this reflects Quasi-PIE **h₂eū-d^hh₁-e-ti*, it seems that Celtiberian has generalised the *∅*-grade of the root, as in the *s*-subjunctive, perhaps due to the morphological ambiguity a form **auziti^(?) /auđi:ti/ < *h₂eū-deh₁-e-ti* would have caused.

Schumacher's suggestion (*KPV*:226–230) that Celtiberian **bionti** and Gaulish **biietutu**, etc., reflect a root-aorist subjunctive of PIE **b^heḡih_x-*, 'schlagen', is more difficult to maintain (4.1.3.1.2; 4.2.2.1). The contexts of both verbs render their semantics unclear, and, unlike the other three possible root-aorist subjunctives, there is no evidence that this root formed a root-aorist elsewhere in Indo-European. Nonetheless, they do present a possible formal match for the other

root-aorist subjunctives. A root-aorist subjunctive **CeC-e-ti* can consequently be reconstructed for Proto-Celtic, although probably only as a marginal category, being replaced by the *s*-subjunctive, as its limited distribution suggests.

5.1.4 The present subjunctive

Only one likely present subjunctive has been found in the course of the study, Proto-Celtic **eseti*, **esonti* > OIr. *ma-d*, *ma-t*. Celtiberian **zizeti/zizonti** (4.2.2.2) seems more likely to be a thematised reduplicated present. Given the cross-linguistic frequency of the verb ‘be’, it is perhaps to be expected that it should preserve synchronically irregular material. It is also possible that the presence of root-final **s* led to the reanalysis of these forms as *s*-subjunctives, i.e. **e-se-ti*, **e-so-nti*, contributing to their ability to survive. The indicative 2sg. **esi* < PIE **h₁esi* < Pre-PIE ***h₁es-si* might already have been segmented synchronically as **e-si*, and this identification of the root as simply **e-* would have spread further after the assimilation **-sm-* > **-m(m)-*, which caused 1sg. **h₁es-mi* > **emmi* (cf. Gaulish $\text{ϰϰμ} \leftarrow *esmi$); 1pl. PIE **h₁es-me-* → PC **emmosi*.²⁰² Consequently, there is good motivation for the preservation of a present subjunctive to this paradigm. Alternatively, **eseti* and **esonti* might have been formed as *s*-subjunctives to the reanalysed root **e-* ← **es-*, and should thus be treated as a later development, perhaps exclusively within the prehistory of Irish.

5.1.5 Conclusions

We thus arrive at a Proto-Celtic system with two principal subjunctive formations. The more productive appears to be the *s*-subjunctive, which is attested in almost all branches of Celtic. From the reanalysis of this suffix after roots of the shape **CERH-*, the suffix **-as^e/o-* was generated, becoming productive in the Insular Celtic languages. Whether or not this was a Proto-Celtic development is unclear, given the fragmentary state of our Continental Celtic evidence. Alongside the *s*-subjunctive, there existed a simple thematic subjunctive, formed to roots which attest root-aorists elsewhere in Indo-European, including the common root **bū-*, which attests such a formation across Celtic. This formation appears to be identifiable with the root-aorist subjunctive of other Indo-European languages. The inflection spread from this root to others in Irish, leading to the creation of the *e*-subjunctive of H2 verbs. Finally, it is possible that a present subjunctive of the root **h₁es-* survives in OIr., but it cannot be said for certain that this is not a secondarily created *s*-subjunctive to a reanalysed root **e-*.

Given the lack of evidence for an *ā*-subjunctive outside of Irish, and the fact that an alternative explanation is available which accounts both for the Irish and Brittonic forms, an *ā*-subjunctive

²⁰² Assuming Proto-Celtic generalisation of *e*-grade, cf. OIr. 1pl. abs. *ammi* < **emmosi* (KPV:306).

should not be reconstructed for Proto-Celtic. Consequently, this putative Italo-Celtic isogloss is removed, and the case substantially weakened for a Proto-Italo-Celtic node in Indo-European.

5.2 Wider consequences: Celtic and Indo-European

5.2.1 Italo-Celtic

Since there appears to be no good evidence for a Proto-Celtic \bar{a} -subjunctive, the case for an Italo-Celtic \bar{a} -subjunctive is fundamentally undermined, and the Italic \bar{a} -subjunctive must be treated as an innovation of that branch. Since this is one of the principal isoglosses drawn upon to support the case for a Proto-Italo-Celtic node of the Indo-European family tree, the case for such a subgroup must consequently be called into question.

5.2.2 The Indo-European Subjunctive

It will have been noticed that essentially all of the evidence for the subjunctive in Celtic is derived from stems which appear to correspond to PIE aorists, specifically *s*-aorists and root-aorists. This might be interpreted in one of two ways: either Proto-Celtic lost every inherited present subjunctive – with the possible, but not probative, exception of **eseti* – or it never inherited present subjunctives from Proto-Indo-European at all. Here these possibilities will be briefly considered.

In the first instance, if Proto-Celtic had inherited the PIE long-vowel subjunctive, its loss would be well-motivated. It was already seen (1.3.1) that there is reason to suspect that the long-vowel subjunctive was a late creation, and its restriction to Greek, Indo-Iranian, and Italic might indicate that it was created in the immediate ancestor of these branches alone. Since the case for Italo-Celtic is weakened by the removal of the \bar{a} -subjunctive, it is even possible that Celtic separated from the other three branches prior to the formation's development. The reflex of the morpheme in Celtic will nonetheless briefly be considered. The suffix $*-ē/o-$ would have developed regularly into Proto-Celtic $*-ī/\bar{a}-$, with an additional variant 1sg. $*-ū < *-o-oh_x$. Not only would this be an aberrant ablaut pattern, but there would also have been syncretism between the long-vowel subjunctive and other stem formants in Proto-Celtic, e.g. iterative-causative $*-ī- < *-eī^e/o-$; denominative $*-ā- < *-eh_2-$. Consequently, the retention of a long-vowel subjunctive $*-ī/\bar{a}, \bar{u}-$ in Proto-Celtic, had it been inherited, would almost be more surprising than its loss.

The short-vowel present subjunctive might not have fared much better than its long-vowel counterpart. The morpheme $*-e/o-$ would have been susceptible to laryngeal colouring after $*CeCH-$ roots, which would have reduced its coherence as a morphological category, and also probably to contractions after roots of the shape $*CeH-$, e.g. PIE $*(s)neh_2-e-ti > PC *snāeti > *snāti$. Moreover, there would have been no analogical model to restore the paradigmatic $*-e/o-$ ablaut of

the short-vowel subjunctive, due to the regular phonological changes that would have affected the long-vowel subjunctive. The result of these processes is that the PIE system of two clearly related suffixes $*-e/o-$ and $*-ē/ō-$ would have yielded the rather opaque $*-a, e, o/o-$ and $*-i/\bar{a}, \bar{u}-$.

Aorist subjunctives, however, would have survived into Proto-Celtic relatively unaffected by sound change. As with the short-vowel present subjunctive, those from root-aorists would have undergone laryngeal colouring if there was root-final $*-Ch_{2/3}$. It seems, however, that the root-aorist was already moribund in Proto-Celtic: *KPV* (777) lists only three preterite stems that can be derived from a Proto-Indo-European root-aorist, and a further three subjunctive stems, from different roots, that reflect a root-aorist subjunctive (*KPV*:774). The fact that different roots are preserved in the two different categories perhaps also indicates that, fairly early in Proto-Celtic, these forms had become paradigmatically isolated relics: two of the preterite stems, $*-kera-$, ‘fell’, and $*lud-$, ‘went’, are suppletive in the attested languages, as is the subjunctive stem $*bue-$, ‘be’. If the suppletive subjunctive MW *el* < PC $*\varphiela-$ < PIE $*pelh_2-$ is added to this number as suggested (2.2.2.4), a picture emerges of a few root-aorist formations – both indicatives and subjunctives – being confined to suppletive paradigms.

The more productive *s*-aorist, however, which underlies the *s*- and *t*-preterite in Goidelic and Brittonic, would have had a corresponding subjunctive in $*-se/o-$, which would have been quite immune to the sound-changes described above. The only semantic difference reconstructible for Proto-Indo-European between the present and aorist subjunctive is that of aspect, based on Greek and Indo-Iranian, where this contrast is preserved. In Celtic, as in Italic, aspect distinctions appear to have been lost at an early stage, as demonstrated by the mixture of inherited aorists and perfects in the OIr. preterite, e.g. *gegain*, ‘he killed’ < Archaic Irish $*geyove$ < Proto-Celtic $*g^ue-g^uon-e$ < PIE $*g^uhe-g^uhon-e$; *anais*, *-an* ‘he waited’ < $*anassi$ ← $*anass$ < Proto-Celtic $*ana-s-t$ < PIE $*h_2enh_1-s-t$. With distinctions of aspect lost, there would have been no significant semantic distinction between present and aorist subjunctives, and since those built to aorist stems formed a more morphologically coherent category, their survival at the expense of the PIE present subjunctive is quite understandable.

The fact that only subjunctives corresponding to aorist stems are preserved in Celtic could be accounted for as just described. Another possibility, although speculative, would be of greater consequence to the reconstruction of Proto-Indo-European: that Proto-Celtic inherited only these subjunctive formations because these were the only forms present in Proto-Indo-European at the time of its separation from the rest of the family. It is a notable fact that the *s*-aorist subjunctive is perhaps the best attested subjunctive stem formation (1.3.1.3), being found in Indo-Iranian, Greek (the *s*-future, 1.3.3.2), Latin (albeit remodelled as the *faxō* type) and Celtic. An argument might therefore be made that the primary exponent of the subjunctive in Proto-Indo-European

was the *s*-aorist subjunctive $*-s^e/o-$. This could be a former present-tense morpheme, marginalised by the development of newer present-tense morphology like the simple thematic present, in accordance with the theories of grammaticalisation set out in 1.4.3. Moreover, the Tocharian Class VIII present in PT $*-s^a/se-$ (1.3.2.2) could then be interpreted as reflecting the fact that Tocharian separated from Proto-Indo-European prior to the development of these present-tense forms into subjunctives, rather than Jasanoff's de-modalised subjunctives (2003:180–82).²⁰³ The association of the $*s^e/o-$ -subjunctive with the *s*-aorist would then be secondary, based on the superficial similarity of the morphemes which characterised them. The creation of the root-aorist subjunctive can be explained by the analogy $*deuk-s-t^{204} : *deuk-se-ti :: *b^huh_x-t : X \rightarrow *b^huh_x-e-ti$. Once the subjunctive was established for aorist stems, its extension as a derivational suffix to present stems would have been unproblematic and led to the creation of the long-vowel subjunctive. This allows the thematic subjunctive in $*-e/o-$ to be derived without the problems facing a derivation from the simple thematic present (1.4.3.1), as suggested by Bozzone (2012) and Dahl (2005; 2013), most notably the continued productivity of the $*e/o-$ -present in the daughter languages.

Such an account of the Indo-European situation, although speculative, could explain the limited distribution of the root-aorist subjunctive in Celtic, and the absence of the present subjunctive. It also averts the problems faced in deriving the Indo-European subjunctive from the thematic present. It may, therefore, be worth considering as at least a possible account of the prehistory of this morphological category, and one which is supported to some extent by the Celtic data.

5.3 Outlook and future questions

Much about the prehistory of the Celtic subjunctive remains uncertain, and it can only be hoped that future discoveries of Continental Celtic material will help cast further light on this morphological category. Further comparison of the syntax in which the subjunctive forms in Insular and Continental Celtic are found, which constraints of space permitted only infrequently in this work, may help to refine the reconstruction of this category for Proto-Celtic. Additionally, as should be clear from the process undertaken in Chapter 3, it will be necessary to try to reconcile the various hypotheses regarding the historical phonology and morphology of Gaulish and Celtiberian into a coherent relative chronology if further research is to be undertaken on these elusive but crucially important branches of Celtic.

²⁰³ Although Peyrot's explanation (2013:515ff.), discussed at 1.3.2.2, may be preferable.

²⁰⁴ This suggests that the root-aorist subjunctive was created before the *Aufstufung* of the *s*-aorist singular (Strunk 1985), since the analogy would have been more weakly motivated if the sigmatic forms were $*dēuk-s-t : *dēuk-se-ti$.

6 Bibliography

- Adams, James N. 2003. *Bilingualism and the Latin Language*. Cambridge: Cambridge University Press.
- Allan, Kathryn, and Justyna A. Robinson, eds. 2011. *Current Methods in Historical Semantics*. Berlin; Boston: De Gruyter Mouton.
- Auwers, Johan van der, Nina Dobrushina, and Valentin Goussev. 2003. 'A Semantic Map for Imperative-Hortatives'. In *Contrastive Analysis in Language*, edited by Dominique Willems, Bart Defrancq, Timothy Coleman, and Dirk Noël, 44–66. Basingstoke; New York: Palgrave Macmillan.
- Auwers, Johan van der, and Vladimir A. Plungian. 1998. 'Modality's Semantic Map'. *Linguistic Typology* 2 (1): 79–124.
- Bammesberger, Alfred. 1982. 'The Origin of the \bar{a} -Subjunctive in Irish'. *Ériu* 33 (January): 65–72.
- Beekes, R. S. P. 1981a. 'Intervocalic Laryngeal in Gatha-Avestan'. In *Bono Homini Donum: Essays in Historical Linguistics in Memory of J. Alexander Kerns*, edited by Yoël L. Arbeitman and Allan R. Bomhard, 1:47–64. *Current Issues in Linguistics Theory* 16. Amsterdam: John Benjamins.
- . 1981b. 'The Subjunctive Endings of Indo-Iranian'. *Indo-Iranian Journal* 23 (1): 21–27.
- . 1988. *A Grammar of Gatha-Avestan*. Leiden; New York: Brill.
- . 2011. *Comparative Indo-European Linguistics: An Introduction*. 2nd ed, revised and corrected by Michiel de Vaan. Amsterdam; Philadelphia: John Benjamins.
- Bergin, Osborn. 1938. 'On the Syntax of the Verb in Old Irish'. *Ériu* 12: 197–214.
- Bernardo Stempel, Patrizia de. 1999. *Nominale Wortbildung des älteren Irischen: Stammbildung und Derivation*. De Gruyter.
- . 2006. 'From Liguria to Spain: unaccented *yo > (y)e in Narbonensic votives ("Gaulish" δεκαντεμ), Hispanic coins ("Iberian" -(sk)en) and some theonyms'. *Palaeohispánica: Revista sobre lenguas y culturas de la Hispania antigua* 6: 45–58.
- . 2007. 'Cib. auzu "haurio", auzeti "haurit", auzanto "hauriant": water in the Botorrita bronzes and other inscriptions (K. 0.8, 1.1, 1.3, 2.1, 5.1)'. *Palaeohispánica: Revista sobre lenguas y culturas de la Hispania antigua* 7: 55–69.
- Best, Richard Irvine, and Osborn Bergin. 1929. *Lebor na huidre - Book of the dun cow*. Dublin: Hodges, Figgis & Co. for the Royal Irish Academy.
- Bijankhan, Mahmood. 2000. 'Farsi Vowel Compensatory Lengthening: An Experimental Approach'. In *Sixth International Conference on Spoken Language Processing*.
- Binchy, Daniel A. 1978. *Corpus iuris hibernici: ad fidem codicum manuscriptorum recognovit*. 6 vols. Baile Átha Cliath: Institiúid Ard-Léinn Bhaile Átha Cliath.

- Blank, Andreas, and Peter Koch. 1999. *Historical Semantics and Cognition*. Reprint 2013. Berlin; Boston: De Gruyter Mouton.
- Blankenborg, Ronald. 2017. 'Would-Be Factuality: Future in the Greek Verb System'. In *Ancient Greek Linguistics: New Approaches, Insights, Perspectives*, edited by Felicia Logozzo and Paolo Poccetti, 303–12. Berlin; Boston: De Gruyter Mouton.
- Blažek, Václav. 2007. 'Celtiberian'. *Sborník Prací Filozofické Fakulty Brněnské Univerzity, N, Řada Klasická / Studia Minora Facultatis Philosophicae Universitatis Brunensis* 57: 5–25.
- Blom, Alderik H. 2007. *'Lingua Gallica: Studies in the Languages of Late Antique Gaul'*. Thesis (Ph.D), Cambridge: University of Cambridge.
- . 2009. 'Gaulish in the formulae of Marcellus of Bordeaux? Methodological considerations'. In *Kelten am Rhein. Akten des dreizehnten Internationalen Keltologiekongresses, 23. bis 27. Juli 2007 in Bonn*, edited by Stefan Zimmer, 2:13–24. Beihefte der Bonner Jahrbücher 58. Mainz: Philipp von Zabern.
- Boye, Kasper. 2010. 'Semantic Maps and the Identification of Cross-Linguistic Generic Categories: Evidentiality and Its Relation to Epistemic Modality'. *Linguistic Discovery* 8 (1): 4–22.
- Bozzone, Chiara. 2012. 'The PIE Subjunctive: Function and Development'. In *The Indo-European Verb: Proceedings of the Conference of the Society for Indo-European Studies, Los Angeles 13–15 September 2010*, edited by H. Craig Melchert, 7–18. Wiesbaden: Reichert.
- Buck, Carl Darling. 1928. *A Grammar of Oscan and Umbrian: With a Collection of Inscriptions and a Glossary*. 2nd ed. Boston, MA: Ginn & Co.
- Bybee, Joan L. 2001. 'Main Clauses Are Innovative, Subordinate Clauses Are Conservative'. In *Complex Sentences in Grammar and Discourse. Essays in Honor of Sandra A. Thompson*, edited by Joan L. Bybee and Michael Noonan, 1–17. Amsterdam; Philadelphia: John Benjamins.
- Bybee, Joan L., Revere D. Perkins, and William Pagliuca. 1994. *The Evolution of Grammar: Tense, Aspect, and Modality in the Languages of the World*. Chicago: University of Chicago Press.
- Cameron, Alan. 1967. 'A New Fragment of Eunapius'. *The Classical Review* 17 (1): 10–11.
- Camodeca, Giuseppe. 1999. *Tabulae pompeianae Sulpiciorum (TPSulp.): edizione critica dell'archivio puteolano dei Sulpicii*. Vetera: ricerche di storia, epigrafia e antichità 12. Roma: Quasar.
- Chantraine, Pierre. 2009. *Dictionnaire étymologique de la langue grecque: histoire des mots*. Edited by Jean Taillardat, Olivier Masson, and Jean Louis Perpillou. Nouv. ed. Librairie Klincksieck. Série linguistique 20. Paris: Klincksieck.
- Charles-Edwards, Thomas, and Fergus Kelly. 1983. *Bechbretha*. Early Irish Law Series 1. Dublin: Dublin Institute for Advanced Studies.

- Cheung, Johnny. 2007. *Etymological Dictionary of the Iranian Verb*. Leiden Indo-European Etymological Dictionary Series 2. Leiden: Brill.
- Clackson, James. 2007. *Indo-European Linguistics: An Introduction*. Cambridge; New York: Cambridge University Press.
- Clackson, James, and Geoffrey C. Horrocks. 2007. *The Blackwell History of the Latin Language*. Malden, MA: Blackwell.
- Collingwood, R. G., R. P. Wright, and R. S. O. Tomlin. 2009. *The Roman Inscriptions of Britain*. Oxford: Clarendon Press.
- Cowgill, Warren. 1975a. 'The origins of the Insular Celtic conjunct and absolute verbal endings'. In *Flexion und Wortbildung: Akten der V. Fachtagung der Indogermanischen Gesellschaft*, edited by Helmut Rix, 40–70. Wiesbaden: Reichert.
- . 1975b. 'Two Further Notes on the Origin of The Insular Celtic Absolute and Conjunct Verb Endings'. *Ériu* 26: 27–32.
- . 1983. 'On the Prehistory of Celtic Passive and Deponent Inflection'. *Ériu* 34: 73–111.
- Croft, William, and Keith T. Poole. 2008. 'Inferring Universals from Grammatical Variation: Multidimensional Scaling for Typological Analysis'. *Theoretical Linguistics* 34 (1): 1–37.
- Curchin, Leonard A. 2008. 'Place names of the Ebro valley: their linguistic origins'. *Palaeohispanica: Revista sobre lenguas y culturas de la Hispania antigua* 8: 13–33.
- Dahl, Eystein. 2005. 'The Indo-European Subjunctive and Questions of Relative Chronology'. presented at the XVIIth International Conference of Historical Linguistics, Madison, August 6. <http://folk.uio.no/eysteind/PaperICHL.pdf>.
- . 2013. 'The Indo-European Subjunctive and its Origin as a Present'. *Journal of Indo-European Studies* 41 (3/4): 392–430.
- Dahl, Östen. 2008. 'The Map and the Terrain'. *Theoretical Linguistics* 34 (1): 53–57.
- Delamarre, Xavier. 2003. *Dictionnaire de la langue gauloise: une approche linguistique du vieux-celtique continental*. 2e éd. rev. et augm. Collection des Hespérides. Paris: Errance.
- Delbrück, Berthold. 1888. *Altindische Syntax*. Syntaktische Forschungen, V. Halle an der Saale: Buchhandlung des Waisenhauses.
- Delbrück, Berthold, and Ernst Windisch. 1871. *Der Gebrauch des Conjunctivs und Optativs in Sanskrit und Griechischen*. Syntaktische Forschungen, I. Halle an der Saale: Buchhandlung des Waisenhauses.
- Diewald, Gabriele. 1999. *Die Modalverben im Deutschen: Grammatikalisierung und Polyfunktionalität*. Reprint 2012. Berlin; Boston: De Gruyter Mouton.
- Duhoux, Yves. 2000. *Le verbe grec ancien: éléments de morphologie et de syntaxe historiques*. 2nd ed. Bibliothèque des Cahiers de l'Institut de linguistique de Louvain 104. Louvain-La-Neuve: Peeters.

- Dunkel, George E. 2014. *Lexikon der indogermanischen Partikeln und Pronominalstämme*. Vol. 2. 2 vols. Indogermanische Bibliothek. 2. Reihe: Wörterbücher. Heidelberg: Universitätsverlag Winter.
- Dupraz, Emmanuel. 2015. 'Le vase de Séraucourt: du support archéologique à l'interprétation linguistique'. *Zeitschrift für celtische Philologie* 62: 1–19.
- . 2018. 'Bemerkungen über die altkeltischen Fluchrituale: Zum Blei von Chartres und einem lateinischen Fluchtäfelchen mit Formeln keltischen Ursprungs'. *Zeitschrift für celtische Philologie* 65: 83–122.
- Duval, Paul-Marie. 1954. 'Le groupe de bas-reliefs des « Nautae Parisiaci »'. *Monuments et mémoires de la Fondation Eugène Piot* 48 (2): 63–90.
- Eska, Joseph F. 1988. 'The Origin of the Hispano-Celtic *o*-Stem Genitive Singular in *-o* and Related Matters'. *Études Celtiques* 25: 117–22.
- . 1989. *Towards an interpretation of the Hispano-Celtic inscription of Botorrita*. Innsbrucker Beiträge zur Sprachwissenschaft, Bd. 59. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- . 1990. 'The so-called weak or dental preterite in Continental Celtic, Watkins' law, and related matters'. *Historische Sprachforschung / Historical Linguistics* 103: 81–91.
- . 1994. 'More on Gaulish *siöxt=i*'. *Études Celtiques* 30: 205–210.
- . 1997. 'Allophony, Chamalières *eddic*, and related matters'. *Zeitschrift für celtische Philologie* 49–50 (1): 170–178.
- . 1998. 'Tau Gallicum'. *Studia Celtica* 32: 115–127.
- . 2003. 'On Valency and Related Matters at Séraucourt à Bourges (Cher)'. *Studia Celtica* 37: 1–16.
- . 2007a. 'On basic configuration and movement within the Gaulish clause'. In *Gaulois et celtique continental*, edited by Pierre-Yves Lambert, 213–229. École Pratique des Hautes Études, Sciences Historiques et Philologiques 3, Hautes études du monde gréco-romain 39. Genève: Droz.
- . 2007b. 'Bergin's Rule: Syntactic Diachrony and Discourse Strategy'. *Diachronica* 24 (2): 253–78.
- . 2008. 'Grammars in Conflict: Phonological Aspects of the Bergin's Rule Construction'. *Keltische Forschungen* 3: 45–62.
- . 2014. 'Against Absolute and Conjunct at Rezé (Loire-Atlantique)'. *Proceedings of the Harvard Celtic Colloquium* 34: 52–66.
- Eska, Joseph F., and D. Ellis Evans. 2009. 'Continental Celtic'. In *The Celtic Languages*, edited by Martin Ball and Nicole Müller, 2nd ed., 28–55. Abingdon: Routledge.

- Eska, Joseph F., and Rex E. Wallace. 2011. 'Script and language at ancient Voltino'. In *Atti del Convegno Internazionale Le lingue dell'Italia antica Iscrizioni, testi, grammatica = Die Sprachen Altitaliens Inschriften, Texte, Grammatik, in memoriam Helmut Rix (1926-2004). 7-8 marzo 2011, Libera università di lingue e comunicazione, IULM, Milano*, edited by Giovanna Rocca, 93–114. Alessandria: Edizioni Dell'Orso.
- Eska, Joseph F., and Michael L. Weiss. 1996. 'Segmenting Gaul. *tomedelai*'. *Studia Celtica* 30: 289–92.
- Evans, Daniel Simon. 2006. *A Grammar of Middle Welsh*. Mediaeval and Modern Welsh Series, Suppl. Dublin: Dublin Institute for Advanced Studies.
- Fagyal, Zsuzsanna, Douglas Kibbee, and Frederic Jenkins. 2006. *French: A Linguistic Introduction*. Cambridge: Cambridge University Press.
- Falileyev, A. I. 2000. *Etymological glossary of Old Welsh*. Buchreihe der Zeitschrift für celtische Philologie, Bd. 18. Tübingen: Niemeyer.
- Fellner, Hannes. 2007. 'The IE "ā-Preterit" - The Tocharian Evidence'. *Harvard Working Papers in Linguistics* 12: 1–13.
- Fleuriot, Léon. 1964. *Dictionnaire des gloses en vieux breton*. Collection Linguistique (Société de linguistique de Paris) 62. Paris: C. Klincksieck.
- . 1974. 'Sur quelques textes gauloises'. *Études Celtiques* 11: 57–66.
- . 1975a. 'La grande inscription celtibère de Botorrita'. *Études Celtiques* 14 (2): 405–42.
- . 1975b. 'Un graffite gaulois sur céramique de Banassac'. *Études Celtiques* 14 (2): 443–50.
- . 1976. 'Le vocabulaire de l'inscription gauloise de Chamalières'. *Études Celtiques* 15: 173–90.
- . 1980. 'Inscriptions gauloises sur céramique et l'exemple d'une inscription de la Graufesenque et d'une autre de Lezoux'. *Études Celtiques* 17: 111–44.
- . 1986. 'Inscription gauloise sur plomb provenant de Lezoux'. *Études Celtiques* 23: 63–70.
- Fortson, Benjamin W. 2010. *Indo-European Language and Culture: An Introduction*. 2nd ed. Blackwell Textbooks in Linguistics 19. Oxford: Wiley-Blackwell.
- Geiriadur Prifysgol Cymru Online*. 2014. Aberystwyth: University of Wales Centre for Advanced Welsh & Celtic Studies. <http://www.geiriadur.ac.uk>.
- Gonda, J. 1956. *The Character of the Indo-European Moods: With Special Regard to Greek and Sanskrit*. Wiesbaden: Harrassowitz.
- Gorrochategui, Joaquín. 1997. 'Die Crux des Keltiberischen'. *Zeitschrift für celtische Philologie* 49–50: 250–272.
- Greenberg, Joseph H. 1966. *Language Universals: With Special Reference to Feature Hierarchies*. Janua Linguarum, Series Minor 59. The Hague: Mouton.

- Haas, Otto. 1949. 'Aus Sprache und Religion der Festlandkelten. Über zwei Formeln des Marcellus von Bordeaux'. *Die Sprache* 1: 50–55.
- Hahn, E. Adelaide. 1953. *Subjunctive and Optative: Their Origin as Futures*. Philological Monographs 16. New York: American Philological Association.
- Hancock, W. Neilson. 1865. *Ancient Laws and Institutes of Ireland*. Dublin: Alexander Thom.
- Haspelmath, Martin. 1998. 'The Semantic Development of Old Presents: New Futures and Subjunctives Without Grammaticalization'. *Diachronica* 15 (1): 29–62.
- . 2004. 'On Directionality in Language Change with Particular Reference to Grammaticalization'. In *Up and Down the Cline – the Nature of Grammaticalization*, edited by Olga Fischer, Muriel Norde, and Harry Perridon, 17–44. Typological Studies in Language 59. Amsterdam; Philadelphia: John Benjamins.
- Henry, Patrick L. 1984. 'Interpreting the Gaulish Inscription of Chamalières'. *Études Celtiques* 21: 141–50.
- Hoffmann, Karl. 1955. 'Vedisch *gámati*'. *Münchener Studien zur Sprachwissenschaft* 7: 89–92.
- Hoz, Javier de. 1997. 'When did the Celts lose their verbal *-i*'? *Zeitschrift für celtische Philologie* 49–50 (1): 107–117.
- Isaac, Graham R. 2001. 'The Gaulish Inscription of Séraucourt à Bourges'. *Studia Celtica* 35 (1): 350–53.
- . 2004. 'The Old- and Early Middle-Welsh "Future" Tense: Form and Function of a Moribund Category'. *Journal of Celtic Studies* 4: 153–70.
- Iverson, Gregory K., and Joseph C. Salmons. 2011. 'Final Devoicing and Final Laryngeal Neutralization'. In *The Blackwell Companion to Phonology*, edited by Marc van Oostendorp, Colin J. Ewen, Elizabeth Hume, and Keren Rice, 3:508–22. Malden, MA: Wiley-Blackwell.
- Jackson, Kenneth Hurlstone. 1967. *A Historical Phonology of Breton*. Dublin: Dublin Institute for Advanced Studies.
- Jasanoff, Jay H. 1983. 'The IE "*ā*-preterite" and related forms'. *Indogermanische Forschungen* 88: 54–83.
- . 1986. 'Old Irish *tair* "come!"'. *Transactions of the Philological Society* 84 (1): 132–41.
- . 1988. 'PIE **ǵnē*- "recognize, know"'. In *Die Laryngaltheorie und die Rekonstruktion des indogermanischen Laut- und Formensystems*, edited by Alfred Bammesberger, 227–239. Indogermanische Bibliothek. 3. Reihe: Untersuchungen. Heidelberg: Winter.
- . 1994. 'The Brittonic subjunctive and future'. In *In honorem Holger Pedersen. Kolloquium der Indogermanischen Gesellschaft vom 26. bis 28. März 1993 in Kopenhagen*, edited by J.E. Rasmussen, 199–220. Wiesbaden: Reichert.

- . 2002. 'The Vedic imperatives *yodhi* "fight" and *bodhi* "heed"'. *Journal of the American Oriental Society*, 290–295.
- . 2003. *Hittite and the Indo-European Verb*. Oxford; New York: Oxford University Press.
- . 2009. 'Notes on the internal history of the PIE optative'. In *East and West: papers in Indo-European studies*, edited by Kazuhiko Yoshida and Brent Harmon Vine, 47–68. Bremen: Hempen.
- . 2012a. 'Did Hittite have *si*-imperatives?' In *The sound of Indo-European 2: papers on Indo-European phonetics, phonemics and morphophonemics*, edited by Roman Sukač and Ondřej Šefčík, 41:116–32. LINCOS studies in Indo-European linguistics. München: Lincom Europa.
- . 2012b. 'Long-Vowel Preterites in Indo-European'. In *The Indo-European Verb: Proceedings of the Conference of the Society for Indo-European Studies, Los Angeles, 13-15 September 2010*, edited by H. Craig Melchert, 127–35. Wiesbaden: Reichert.
- . 2013. 'The Tocharian Subjunctive and Preterite in **-a-*'. In *Multi Nominis Grammaticus: studies in Classical and Indo-European Linguistics in Honor Of Alan J. Nussbaum, on the Occasion of his Sixty-fifth birthday*, edited by Adam I. Cooper, Jeremy Rau, and Michael L. Weiss, 105–20. Ann Arbor: Beech Stave Press.
- Jordán Cólera, Carlos. 2005. '¿Sistema dual de escritura en celtibérico?' *Palaeohispanica: Revista sobre lenguas y culturas de la Hispania antigua* 5: 1013–1030.
- . 2007. 'Celtiberian'. *E-Keltoi: Journal of Interdisciplinary Celtic Studies* 6 (March): 1–102.
- . 2015. 'Avidintvm, una nueva forma verbal en celtibérico y sus posibles relaciones paradigmáticas (*auzeti, auzanto, auz, auzimeí, auzares...*)'. *Cuadernos de Filología Clásica. Estudios Griegos e Indoeuropeos; Madrid* 25: 11–23.
- . 2019. *Lengua y epigrafía celtibéricas*. 1a ed. Vol. 1. 2 vols. Monografías de filología griega 29. Zaragoza: Prensas de la Universidad de Zaragoza.
- Katz, Joshua T. 1994. 'The Celtic and Indo-European background of Old Irish *sní* "we" and *sí* "you". Some methodological issues in the reconstruction of personal pronouns.' presented at the Sixth Annual UCLA Indo-European Conference.
- . 2000. 'Egnatius' Dental Fricatives (Catullus 39.20)'. *Classical Philology* 95 (3). University of Chicago Press: 338–48.
- Keil, Heinrich. 1855. *Grammatici latini, ex recensione Henrici Keilii*. 7 vols. Leipzig: B. G. Teubner.
- Kim, Ronald I. 2007. 'The Tocharian Subjunctive in Light of the *H₂e*-Conjugation Model'. In *Verba Docenti: Studies in Historical and Indo-European Linguistics Presented to Jay H. Jasanoff by Students, Colleagues, and Friends*, edited by Alan J. Nussbaum, 185–200. Ann Arbor: Beech Stave Press.

- . 2018. 'The root ablaut of Tocharian B /pər-/ , A pār- "carry" revisited'. *Chatreššar* 1: 19–24.
- Kloekhorst, Alwin. 2008. *Etymological Dictionary of the Hittite Inherited Lexicon*. Leiden Indo-European Etymological Dictionary Series 5. Leiden; Boston, MA: Brill.
- Koch, John T. 1987. 'Prosody and the Old Celtic Verbal Complex'. *Ériu* 38: 143–76.
- Kortlandt, Frederik. 1979a. 'The Old Irish Absolute and Conjunct Endings and Questions of Relative Chronology'. *Ériu* 30: 35–53.
- . 1979b. 'Toward a Reconstruction of the Balto-Slavic Verbal System'. *Lingua* 49 (1): 51–70.
- . 1984. 'Old Irish Subjunctives and Futures and Their Proto-Indo-European Origins'. *Ériu* 35 (January): 179–87.
- . 1992. 'The Aeolic Optative'. In *Rekonstruktion und relative Chronologie: Akten der 8. Fachtagung der Indogermanischen Gesellschaft*, edited by R. S. P. Beekes, Alexander Lubotsky, and J. J. S. Weitenberg, 235–39. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- Kozintseva, Nataliia Andreevna. 1995. *Modern Eastern Armenian*. Languages of the World - Materials 22. Munich; Newcastle: Lincom Europa.
- Kropp, Amina. 2010. 'How Does Magical Language Work? The Spells and Formulae of the Latin *Defixionum Tabellae*'. In *Magical Practice in the Latin West: Papers from the International Conference Held at the University of Zaragoza, 30 Sept.-1 Oct. 2005*, edited by R. L. Gordon and Francisco Marco Simón, 357–80. Religions in the Graeco-Roman World 168. Leiden; Boston, MA: Brill.
- Kümmel, Martin Joachim. 1998. 'Wurzelpräsens neben Wurzelaorist im Indogermanischen'. *Historische Sprachforschung / Historical Linguistics* 111 (2): 191–208.
- Lambert, Pierre-Yves. 1979. 'La tablette gauloise de Chamalières'. *Études Celtiques* 16: 141–69.
- . 1994. *La langue gauloise: description linguistique, commentaire d'inscriptions choisies*. Collection des Hespérides. Paris: Errance.
- . 2001a. 'La tuile gauloise de Châteaubateau (Seine-et-Marne)'. *Études Celtiques* 34: 57–116.
- . 2001b. 'Une particule gauloise *as*?' In *Religión, lengua y cultura prerromanas de Hispania*, edited by Francisco Villar and María Pilar Fernández Alvarez, 459–470. Salamanca: Universidad de Salamanca.
- , ed. 2002. *Recueil des Inscriptions Gauloises (R.I.G.): Vol. 2, Fasc. 2: Textes gallo-latins sur Instrumentum*. Suppléments à *Gallia* 45. Paris: CNRS Éditions.
- . 2003. *La langue gauloise: description linguistique, commentaire d'inscriptions choisies*. Éd. rev. et augmentée. Collection des Hespérides. Paris: Errance.

- Lambert, Pierre-Yves, and David Stifter. 2012. 'Le plomb gaulois de Rezé'. *Études Celtiques* 38 (1): 139–64.
- Langston, Keith. 2018. '82. The morphology of Slavic'. In *Handbook of Comparative and Historical Indo-European Linguistics - An International Handbook*, edited by Jared S. Klein, Brian D. Joseph, and Matthias Andreas Fritz, 3:1538–57. Handbücher zur Sprach- und Kommunikationswissenschaft 41. Berlin; Boston: De Gruyter Mouton.
- Lash, Elliott. 2020. 'Transitivity and Subject Positions in Old Irish'. *Transactions of the Philological Society* 118 (1): 94–140.
- Lejeune, Michel. 1955. *Celtiberica*. Acta Salmanticensia. Salamanca: Universidad de Salamanca.
- , ed. 1985. *Recueil des Inscriptions Gauloises (R.I.G.): Vol. 1: Les Inscriptions Gallo-Grecs*. Suppléments à *Gallia* 45. Paris: CNRS Éditions.
- , ed. 1988. *Recueil des Inscriptions Gauloises (R.I.G.): Vol. 2, Fasc. 1: Textes gallo-étrusques et textes gallo-latins sur pierre*. Suppléments à *Gallia* 45. Paris: CNRS Éditions.
- Lejeune, Michel, Léon Fleuriot, Pierre-Yves Lambert, Robert Marichal, and Alain Vernhet. 1985. *Le plomb magique du Larzac et les sorcières gauloises*. Paris: CNRS Éditions.
- Lewis, Henry, and Holger Pedersen. 1989. *A Concise Comparative Celtic Grammar*. 3. ed, 2. impr. with a supplement of 1961 by Henry Lewis. Göttingen: Vandenhoeck & Ruprecht.
- Lewis, Henry, and J. R. F. Piette. 1990. *Handbuch des Mittelbretonischen*. Translated by Wolfgang Meid. Innsbrucker Beiträge zur Sprachwissenschaft, Bd. 62. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck: Auslieferung, IBS-Vertrieb.
- Lewis, Henry, and Stefan Zimmer. 1990. *Handbuch des Mittelkornischen*. Innsbrucker Beiträge zur Sprachwissenschaft, Bd. 61. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- Lightfoot, David. 1979. *Principles of Diachronic Syntax*. Cambridge Studies in Linguistics 23. Cambridge; New York: Cambridge University Press.
- Lindsay, W.M., ed. 1913. *Sexti Pompei Festi De verborum significatu quae supersunt cum Pauli epitome*. Leipzig: B. G. Teubner.
- Lorrio, Alberto J., and Javier Velaza. 2005. 'La primera inscripción celtibérica sobre plomo'. *Palaeohispánica: Revista sobre lenguas y culturas de la Hispania antigua* 5: 1031–1048.
- Lubotsky, Alexander. 1995. 'Reflexes of Intervocalic Laryngeals in Sanskrit'. In *Kuryłowicz Memorial Volume*, edited by Jerzy Kuryłowicz and Wojciech Smoczyński, 1:213–33. *Analecta Indoeuropaea Cracoviensia* 2. Cracow: Universitas.
- . 2018. '110. The phonology of Proto-Indo-Iranian'. In *Handbook of Comparative and Historical Indo-European Linguistics - An International Handbook*, edited by Jared S. Klein, Brian D. Joseph, and Matthias Andreas Fritz, 3:1875–88. Handbücher zur Sprach- und Kommunikationswissenschaft 41. Berlin; Boston: De Gruyter Mouton.

- Lundquist, Jesse, and Anthony D. Yates. 2018. '122. The morphology of Proto-Indo-European'. In *Handbook of Comparative and Historical Indo-European Linguistics - An International Handbook*, edited by Jared S. Klein, Brian D. Joseph, and Matthias Andreas Fritz, 3:2079–2195. Handbücher zur Sprach- und Kommunikationswissenschaft 41. Berlin; Boston: De Gruyter Mouton.
- Lunt, Horace Gray. 1974. *Old Church Slavonic Grammar*. 6th ed. Slavistic Printings and Reprintings 3. The Hague: Mouton.
- Makaev, E. A. 1964. 'The Morphological Structure of Common Germanic'. *Linguistics* 2 (10): 22–50.
- Malzahn, Melanie. 2010. *The Tocharian Verbal System*. Brill's Studies in Indo-European Languages & Linguistics 3. Leiden: Brill.
- Marichal, Robert. 1974. 'Nouveaux graffites de la Graufesenque, IV'. *Revue des Études Anciennes* 76 (1): 85–110.
- . 1988. *Les graffites de la Graufesenque*. Suppléments à *Gallia* 47. Paris: CNRS Éditions.
- Matasović, Ranko. 2009. *Etymological Dictionary of Proto-Celtic*. Leiden Indo-European Etymological Dictionary Series 9. Leiden; Boston, MA: Brill.
- McCone, Kim. 1991. *The Indo-European origins of the Old Irish nasal presents, subjunctives and futures*. Innsbrucker Beiträge zur Sprachwissenschaft, Bd. 66. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- . 1994. 'An tSean-Ghaeilge agus a Réamhstair'. In *Stair na Gaeilge in ómós do Pádraig Ó Fiannachta*, edited by Kim McCone, Damian McManus, Cathal Ó Háinle, Nicholas Williams, and Liam Breatnach, 61–219. Maigh Nuad: Roinn na Sean-Ghaeilge, Coláiste Phádraig.
- . 1996a. 'Der Teller von Lezoux'. In *Die grösseren altkeltischen Sprachdenkmäler: Akten des Kolloquiums Innsbruck, 29. April - 3. Mai 1993*, edited by Wolfgang Meid, 107–17. Innsbrucker Beiträge zur Kulturwissenschaft Sonderheft, Bd. 95. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- . 1996b. *Towards a Relative Chronology of Ancient and Mediaeval Celtic Sound Change*. Maynooth Studies in Celtic Linguistics 1. Maynooth: Department of Old and Middle Irish, National University of Ireland.
- . 1997. *The Early Irish Verb*. Rev. 2. ed. with index verborum. Maynooth Monographs 1. Maynooth: An Sagart.
- . 2000. *Echtrae Chonnlai and the Beginnings of Vernacular Narrative Writing in Ireland: A Critical Edition with Introduction, Notes, Bibliography and Vocabulary*. Maynooth Medieval Irish Texts 1. Maynooth: Department of Old and Middle Irish, National University of Ireland.

- . 2001. 'Celtibérico, celta continental y celta común'. In *Religión, lengua y cultura prerromanas de Hispania*, edited by Francisco Villar and María Pilar Fernández Álvarez, 483–494. Salamanca: Universidad de Salamanca.
- . 2006. *The Origins and Development of the Insular Celtic Verb Complex*. Maynooth Studies in Celtic Linguistics 6. Maynooth: Department of Old and Middle Irish, National University of Ireland.
- McQuillan, Peter. 2002. *Modality and Grammar: A History of the Irish Subjunctive*. Maynooth Studies in Celtic Linguistics 5. Maynooth: Department of Old and Middle Irish, National University of Ireland.
- Mees, Bernard. 2002. 'On Gaulish Tau'. *Studia Celtica* 36: 21–26.
- . 2007. 'Chamalières *sníeθθic* and "binding" in Celtic'. *Journal of Indo-European Studies* 35 (1 & 2): 9–29.
- . 2008a. 'Case and Genre in Gaulish: From Mont Auxois to the Pont d'Ancy'. *Journal of Celtic Linguistics* 12: 121–38.
- . 2008b. 'The Women of Larzac'. *Keltische Forschungen* 3: 123–42.
- . 2010. 'A Gaulish Prayer for Vengeance on a *Lamella* from Lezoux'. *Celtica* 26: 48–65.
- . 2011. 'Words from the well at Gallo-Roman Châteaubleau'. *Zeitschrift für celtische Philologie* 58: 87–108.
- Meid, Wolfgang. 1994a. *Celtiberian Inscriptions*. Archaeolingua Series Minor 5. Budapest: Archaeological Institute, Hungarian Academy of Sciences.
- . 1994b. *Gaulish Inscriptions: Their Interpretation in the Light of Archaeological Evidence and Their Value as a Source of Linguistic and Sociological Information*. 2nd ed. Archaeolingua Series Minor 1. Budapest: Archaeolingua.
- . 1996. *Heilpflanzen und Heilsprüche: Zeugnisse gallischer Sprache bei Marcellus von Bordeaux*. Innsbrucker Beiträge zur Sprachwissenschaft. Vorträge und kleinere Schriften, Bd. 63. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- . 2015. *The Romance of Froech and Findabair or The Driving of Froech's Cattle: Táin Bó Froích*. Innsbrucker Beiträge Zur Kulturwissenschaft, Neue Folge, Bd. 10. Innsbruck: Institut für Sprachen und Literaturen der Universität Innsbruck.
- Meier-Brügger, Michael, Matthias Andreas Fritz, and Manfred Mayrhofer. 2003. *Indo-European Linguistics*. De Gruyter Textbooks. Berlin: De Gruyter Mouton.
- Meiser, Gerhard. 2017. '47. The phonology of Italic'. In *Handbook of Comparative and Historical Indo-European Linguistics - An International Handbook*, edited by Jared S. Klein, Brian D. Joseph, and Matthias Andreas Fritz, 2:743–51. Handbücher zur Sprach- und Kommunikationswissenschaft 41. Berlin; Boston: De Gruyter Mouton.

- Meißner, Torsten. 2010. 'Bratonio Gratias: Bemerkungen zur festlandkeltischen Onomastik und Phraseologie'. *Zeitschrift für celtische Philologie* 57: 97–106.
- Melchert, H. Craig. 2014. "Narten Formations" versus "Narten Roots". *Indogermanische Forschungen* 119 (1): 251–258.
- Melo, Wolfgang David Cirilo de. 2007. *The Early Latin Verb System: Archaic Forms in Plautus, Terence, and Beyond*. Oxford Classical Monographs. Oxford; New York: Oxford University Press.
- Monna, Maria Cornelia. 1978. *Gathas of Zarathustra: A Reconstruction of the Text*. Leiden: Rijksuniversiteit.
- Morandi, Alessandro. 2004. *Celti d'Italia. Tomo II: Epigrafia e lingua dei Celti d'Italia*. Edited by Paola Piana Agostinetti. 1. ed. Vol. 2. 2 vols. Popoli e civiltà dell'Italia antica 12. Roma: Spazio tre.
- Mullen, Alex. 2013. *Southern Gaul and the Mediterranean: Multilingualism and Multiple Identities in the Iron Age and Roman Periods*. Cambridge Classical Studies. Cambridge; New York: Cambridge University Press.
- Must, Gustav. 1960. 'A Gaulish Incantation in Marcellus of Bordeaux'. *Language* 36 (2): 193–97.
- Niedermann. 1995. *Marcellus – Über Heilmittel 1 / edited by Max Niedermann*. Corpus Medicorum Latinorum; V,1. Berlin; Boston: De Gruyter Mouton.
- O'Rahilly, Cecile, ed. 1976. *Tain Bo Cuailnge: Recension 1*. Dublin: Dublin Institute for Advanced Studies.
- Orel, Vladimir È. 2000. *A Concise Historical Grammar of the Albanian Language: Reconstruction of Proto-Albanian*. Leiden: Brill.
- Pailler, Jean-Marie. 2008. 'Les Rutènes, peuple des eaux vives'. *Pallas* 76: 341–52.
- Palmer, F. R. 1986. *Mood and Modality*. Cambridge Textbooks in Linguistics. Cambridge; New York: Cambridge University Press.
- Pauc, René. 1972. 'Les céramiques sigillées rouges de Carrade, commune de Cajarc (Lot)'. *Bulletin de la Société des Études Littéraires, Scientifiques et Artistiques du Lot* 93 (2): 183–239.
- Pedersen, Holger. 1909. *Vergleichende Grammatik der keltischen Sprachen*. Göttingen: Vandenhoeck und Ruprecht.
- Peyrot, Michaël. 2013. *The Tocharian Subjunctive: A Study in Syntax and Verbal Stem Formation*. Brill's Studies in Indo-European Languages & Linguistics 8. Leiden: Brill.
- Pinkster, Harm. 2015. *The Oxford Latin Syntax: Volume 1: The Simple Clause*. Oxford University Press.
- Pisani, Vittore. 1963. 'On a Gaulish Sanative Formula'. In *Studia Linguistica in Honorem Thaddei Lehr-Spławinski*, edited by Tadeusz Milewski, Jan Safarewicz, and Franciszak Sławski, 49–51. Warszawa: Państwowe Wydawn. Naukowe.

- Pokorny, Julius. 1959. *Indogermanisches etymologisches Wörterbuch*. Bern: Francke.
- Prósper, Blanca María. 2007. *Estudio lingüístico del plomo celtibérico de Iniesta*. Acta Salmanticensia 319. Salamanca: Universidad de Salamanca.
- . 2011. 'The instrumental case in the thematic noun inflection of Continental Celtic'. *Historische Sprachforschung / Historical Linguistics* 124: 250–67.
- . 2012. 'The enigma of *benkota*, the Celtic decades and the coinage of the Ebro Valley'. *Die Sprache* 50 (1–2): 1–30.
- . 2014. 'Time for Celtiberian Dialectology: Celtiberian Syllabic Structure and the Interpretation of the Bronze Tablet from Torrijo Del Campo, Teruel (Spain)'. *Keltische Forschungen* 6: 115–55.
- . 2019. 'Language Change at the Crossroads: What Celtic, What Venetic, and What Else in the Personal Names of Emona?' *Вопросы Ономастики* 16 (4). Издательство Уральского университета: 33–73.
- Rasmussen, Jens Elmegård. 1985. 'The Indo-European Origin of the Balto-Slavic *-ē-* and *-ā-* Preterite'. In *Papers from the 6th International Conference on Historical Linguistics*, edited by Jacek Fisiak, 441–50. Amsterdam: John Benjamins.
- Reddé, Michel. 2012. 'Alesia'. In *The Encyclopedia of Ancient History*, edited by Roger S Bagnall, Kai Brodersen, Craige B Champion, Andrew Erskine, and Sabine R Huebner, 285–86. Hoboken, NJ: John Wiley & Sons, Inc.
- Renou, Louis. 1932. 'À propos du subjonctif védique'. *Bulletin de la Société de Linguistique de Paris* 33 (1): 5–30.
- Rhys, John. 1885. 'Notes on the Language of Old Welsh Poetry'. *Revue Celtique* 6: 14–61.
- Rieken, Elisabeth. 2012. *Die Konditionalsätze, Irrelevanzkonditionalia und Konzessivsätze des Altirischen*. Studien und Texte zur Keltologie 10. Münster: Nodus.
- Ringe, Donald A. 1998. 'Some Consequences of a New Proposal for Subgrouping the IE Family'. In *Proceedings of the Twenty-Fourth Annual Meeting of the Berkeley Linguistics Society*, edited by Benjamin K. Bergen, Madelaine C. Plauché, and Ashlee C. Bailey, 24:32–46. Berkeley: Berkeley Linguistics Society.
- . 2006. *From Proto-Indo-European to Proto-Germanic*. Linguistic History of English 1. Oxford: Oxford University Press.
- Rix, Helmut. 1977. 'Das keltische Verbalsystem auf dem Hintergrund des indo-iranisch-griechischen Rekonstruktionsmodells'. In *Indogermanisch und Keltisch*, edited by Karl Horst Schmidt, 132–58. Wiesbaden: Reichert.
- . 2002. *Sabellische Texte: die Texte des Oskischen, Umbrischen und Südpikenischen*. Handbuch der italischen Dialekte, 5. Bd. Heidelberg: Universitätsverlag C. Winter.

- . 2003. 'Towards a Reconstruction of Proto-Italic'. In *Proceedings of the Fourteenth Annual UCLA Indo-European Conference, Los Angeles, November 8-9, 2002*, edited by Karlene Jones-Bley, 1–24. Journal of Indo-European Monograph Series 47. Washington, DC: Institute for the Study of Man.
- Rix, Helmut, and Martin Kümmel, eds. 2001. *Lexikon der indogermanischen Verben: die Wurzeln und ihre Primärstambildungen*. 2. Aufl. Wiesbaden: Reichert.
- Roberts, Sara Elin. 2011. *Llawysgrif Pomffred: An Edition and Study of Peniarth MS 259B*. Medieval Law and Its Practice 10. Boston, MA: Brill.
- Rubio Orecilla, Francisco Javier. 1996. 'Tensiones paradigmáticas en el verbo celtibérico: *auđeti, auđanto, auđares* y otras formas emparentadas'. *Kalathos* 15: 181–94.
- . 1997. 'Formas pronominales sufijadas y exentas en galo y en céltico continental'. *Die Sprache* 39: 31–58.
- . 1999. 'Das keltiberische Verb und der protokeltische Imperativ'. *Historische Sprachforschung / Historical Linguistics* 112 (1): 106–21.
- . 2013. 'Hacia la identificación de paradigmas verbales en las inscripciones celtibéricas'. *Palaeohispánica: Revista sobre lenguas y culturas de la Hispania antigua* 13: 699–715.
- Sadeghi, Vahid, and Mahmood Bijankhan. 2007. 'Compensatory Lengthening in Persian'. presented at the The 16th International Congress on Phonetic Sciences, Saarbrücken. <http://www.icphs2007.de/conference/Papers/1159/1159.pdf>.
- Sayeed, Ollie, and Bert Vaux. 2017. '66. The evolution of Armenian'. In *Handbook of Comparative and Historical Indo-European Linguistics - An International Handbook*, edited by Jared S. Klein, Brian D. Joseph, and Matthias Andreas Fritz, 2:1146–67. Handbücher zur Sprach- und Kommunikationswissenschaft 41. Berlin; Boston: De Gruyter Mouton.
- Schmidt, Karl Horst. 1957. 'Die Komposition in gallischen Personennamen'. *Zeitschrift für celtische Philologie* 26 (1): 33–160.
- . 1981. 'The Gaulish Inscription of Chamalières'. *The Bulletin of the Board of Celtic Studies* 29 (1): 256–268.
- . 1983. 'Grundlagen einer festlandkeltischen Grammatik'. In *Le lingue indoeuropee di frammentaria attestazione/Die indogermanischen Restsprachen: Atti del Convegno della Società Italiana di Glottologia e della Indogermanische Gesellschaft*, edited by Edoardo Vineis, 65–90. Pisa: Giardini Editori e Stampatori.
- . 1986. 'Zur Rekonstruktion des Keltischen. Festlandkeltisches und inselkeltisches Verbum.' *Zeitschrift für celtische Philologie* 41: 159–179.
- . 1990a. 'Gallo-Brittonic or Insular Celtic'. In *Studia Indogermanica et Palaeohispanica in Honorem A. Tovar et L. Michelena*, edited by Francisco Villar, 255–67. Salamanca: Universidad del País Vasco/Universidad de Salamanca.

- . 1990b. 'K. McCone, The Early Irish Verb.' *Cambridge Medieval Celtic Studies* 19: 69–76.
- . 1992. 'Contributions from New Data to the Reconstruction of the Proto-Language'. In *Reconstructing Languages and Cultures*, edited by Edgar C. Polomé and Werner Winter, Reprint 2011, 35–62. Berlin; Boston: De Gruyter Mouton.
- . 2001a. 'Études Celtiques 33 (1999)'. *Zeitschrift für celtische Philologie* 52 (1): 338–341.
- . 2001b. 'The contribution of Celtiberian to the Reconstruction of Common Celtic: Instalment II'. In *Religión, lengua y cultura prerromanas de Hispania*, edited by Francisco Villar and María Pilar Fernández Alvarez, 595–611. Salamanca: Universidad de Salamanca.
- . 2004. 'Recueil des Inscriptions Gauloises (RIG). Vol. II, fasc. 2: Textes gallo-latins sur instrumentum par P.-Y. LAMBERT'. *Zeitschrift für celtische Philologie* 54 (1): 253–257.
- . 2007a. 'Celtica vol. XXIV: In memory of Brian Ó Cuív'. *Indogermanische Forschungen* 112: 316–20.
- . 2007b. 'SCHUMACHER, ST.: Die keltischen Primärverben: ein vergleichendes, etymologisches und morphologisches Lexikon'. *Zeitschrift für celtische Philologie* 55 (1): 266–272.
- Schmitt, Rüdiger. 1981. *Grammatik des Klassisch-Armenischen mit sprachvergleichenden Erläuterungen*. Innsbrucker Beiträge zur Sprachwissenschaft, Bd. 32. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- Schneider, Richard, Gustav Uhlig, and A. Hilgard. 1867. *Grammatici graeci recogniti et apparatu critico instructi*. Leipzig: B. G. Teubner.
- Schrijver, Peter. 1994. 'The Celtic adverbs for "against" and "with" and the early apocope of -i'. *Ériu* 45: 151–89.
- . 1995. *Studies in British Celtic Historical Phonology*. Leiden Studies in Indo-European 5. Amsterdam: Rodopi.
- . 1997. *Studies in the History of Celtic Pronouns and Particles*. Maynooth Studies in Celtic Linguistics 2. Maynooth: Department of Old and Middle Irish, National University of Ireland.
- . 1999. 'Griechisch ἤδῃ 'er wußte''. *Historische Sprachforschung / Historical Linguistics* 112 (2): 264–72.
- . 2001. 'The Châteaubleau tile as a link between Latin and French and between Gaulish and Brittonic'. *Études Celtiques* 34: 135–142.
- . 2007. 'Some common developments of Continental and Insular Celtic'. In *Gaulois et celtique continentale*, edited by Pierre-Yves Lambert, 355–371. École Pratique des Hautes Études, Sciences Historiques et Philologiques 3, Hautes études du monde gréco-romain 39. Genève: Droz.

- . 2011. 'Old British'. In *Brythonic Celtic - Britannisches Keltisch: from medieval British to modern Breton*, edited by Elmar Ternes, 1–84. Münchner Forschungen zur historischen Sprachwissenschaft 11. Bremen: Hempen.
- Schumacher, Stefan. 1995. 'The Middle Welsh absolute endings *-(h)yt*, *-(h)it* and *-(h)awt* and the question of a "future" in Old and early Middle Welsh'. *Die Sprache* 37 (1): 54–72.
- . 2004. *Die keltischen Primärverben: ein vergleichendes, etymologisches und morphologisches Lexikon*. Innsbrucker Beiträge zur Sprachwissenschaft, Bd. 110. Innsbruck: Institut für Sprachen und Kulturen der Universität Innsbruck.
- Schumacher, Stefan, Joachim Matzinger, and Anna-Maria Adaktylos. 2013. *Die Verben des Altalbanischen: Belegwörterbuch, Vorgeschichte und Etymologie*. Albanische Forschungen 33. Wiesbaden: Harrassowitz.
- Schürr, Diether. 2006. 'Zur Doppelschrift von Voltino'. *Studi Etruschi* 72: 335–346.
- Sihler, Andrew L. 1995. *New Comparative Grammar of Greek and Latin*. Oxford; New York: Oxford University Press.
- Sims-Williams, Patrick. 2007. 'Common Celtic, Gallo-Brittonic and Insular Celtic'. In *Gaulois et celtique continental*, edited by Pierre-Yves Lambert, 309–54. École Pratique des Hautes Études, Sciences Historiques et Philologiques 3, Hautes études du monde gréco-romain 39. Genève: Droz.
- Stifter, David. 2008. 'Gaulois et celtique continental. Études réunies par Pierre-Yves Lambert et Georges-Jean Pinault [= École pratique des hautes études. Sciences historiques et philologiques. III. Hautes études du monde gréco-romain 39], Genève: Librairie Droz 2007'. *Keltische Forschungen* 3: 267–91.
- . 2009. 'Notes on Châteaubleau (L-93)'. *Keltische Forschungen* 4: 229–44.
- . 2010a. 'Schwund von auslautendem *s* als westeuropäische areale Erscheinung'. *Die Sprache* 49 (2): 187–93.
- . 2010b. 'The Invisible Third: The Basque and Celtic Words for "Swallow"'. *Ériu* 60: 145–57.
- . 2011. 'The textual arrangement of Alise-Sainte-Reine [L-13]'. *Zeitschrift für celtische Philologie* 58 (1): 165–82.
- . 2012a. 'Lenition of *s* in Gaulish?' In *The Sound of Indo-European: Phonetics, Phonemics and Morphophonemics*, edited by Benedicte Nielsen Whitehead, Thomas Olander, Birgit Anette Olsen, and Jens Elmegård Rasmussen, 523–44. Copenhagen: Museum Tusulanum.
- . 2012b. 'On the Linguistic Situation of Roman-Period Ig'. In *Personal Names in the Western Roman World. Proceedings of a Workshop Convened by Torsten Meißner, José Luis García Ramón and Paolo Poccetti, Held at Pembroke College, Cambridge, 16–18 September 2011*,

- edited by Torsten Meißner, 247–65. *Studies in Classical and Comparative Onomastics* 1. Berlin: Curach Bhán Publications.
- . 2013. ‘Two Continental Celtic Studies: the Vocative of Gaulish, and *Essimnus*’. In *Continental Celtic Word Formation. The Onomastic Data*, edited by Juan Luis García Alonso, 99–122. *Collección Aquilafuente* 197. Salamanca: Universidad de Salamanca.
- . 2014. ‘The History of the Old Irish Preverb *To-*’. In *Linguistic and Philological Studies in Early Irish*, edited by Elisa Roma and David Stifter, 203–46. Lewiston: The Edwin Mellen Press.
- . 2017. ‘68. The phonology of Celtic’. In *Handbook of Comparative and Historical Indo-European Linguistics - An International Handbook*, edited by Jared S. Klein, Brian D. Joseph, and Matthias Andreas Fritz, 2:1188–1202. *Handbücher zur Sprach- und Kommunikationswissenschaft* 41. Berlin; Boston: De Gruyter Mouton.
- Stokes, Whitley. 1867. ‘The Middle-Breton Irregular Verbs’. *Transactions of the Philological Society* 12 (1): 114–66.
- . 1904. ‘O’Davoren’s glossary’. *Archiv für celtische Lexikographie* 2: 197–504.
- . 1905. ‘The Evernew Tongue’. *Ériu* 2: 96–162.
- Stokes, Whitley, and Dominus Hadton. 1872. *Beunans Meriasek. The Life of Saint Meriasek, Bishop and Confessor. A Cornish Drama*. London: Trübner and co.
- Stokes, Whitley, and John Strachan. 1901. *Thesaurus Palaeohibernicus: A Collection of Old-Irish Glosses, Scholia, Prose and Verse*. Cambridge: Cambridge University Press.
- Strachan, J. 1904. ‘An Old-Irish Metrical Rule’. *Ériu* 1. Royal Irish Academy: 191–208.
- Strunk, Klaus. 1985. ‘Flexionskategorien mit akrostatischem Akzent und die sigmatischen Aoriste’. In *Grammatische Kategorien. Funktion und Geschichte. Akten der VII. Fachtagung der Indogermanischen Gesellschaft.*, edited by Bernfried Schlerath, 490–514. Wiesbaden: Harrassowitz.
- Stüber, Karin. 1998. *The Historical Morphology of N-Stems in Celtic*. *Maynooth Studies in Celtic Linguistics* 3. Maynooth: Department of Old and Middle Irish, National University of Ireland.
- . 2017. ‘69. The morphology of Celtic’. In *Handbook of Comparative and Historical Indo-European Linguistics - An International Handbook*, edited by Jared S. Klein, Brian D. Joseph, and Matthias Andreas Fritz, 2:1203–18. *Handbücher zur Sprach- und Kommunikationswissenschaft* 41. Berlin; Boston: De Gruyter Mouton.
- Szemerényi, Oswald. 1966. ‘The Origin of the Vedic “Imperatives” in *-si*’. *Language* 42 (1): 1–6.
- Thurneysen, Rudolf. 1892. ‘Zu den irischen verbalformen sigmatischer bildung’. *Zeitschrift für vergleichende Sprachforschung auf dem Gebiete der Indogermanischen Sprachen* 31 (1): 62–102.

- . 1927. 'Zu den Graffiti von La Graufesenque'. *Zeitschrift für celtische Philologie* 16 (1): 285–304.
- . 2003. *A Grammar of Old Irish: With Supplement*. Translated by Daniel A. Binchy and Osborn Bergin. Rev. and enl. Ed. Dublin: Dublin Institute for Advanced Studies.
- Tichy, Eva. 2002. 'Zur Funktion und Vorgeschichte der indogermanischen Modi'. In *Indogermanische Syntax: Fragen und Perspektiven*, edited by Heinrich Hettrich and Jeong-Soo Kim, 189–206. Wiesbaden: Reichert.
- . 2006a. *A Survey of Proto-Indo-European*. Translated by James E. Cathey. Bremen: Hempen.
- . 2006b. *Der Konjunktiv und seine Nachbarkategorien: Studien zum indogermanischen Verbum, ausgehend von der älteren vedischen Prosa*. Bremen: Hempen.
- Toner, Gregory, Máire Ní Mhaonaigh, Sharon Arbuthnot, Marie-Luise Theuerkauf, and Dagmar S. Wodtko, eds. 2019. *EDIL: Electronic Dictionary of the Irish Language*. www.dil.ie.
- Uhlich, Jürgen. 2010. 'Altirisch *arae* ‚Wagenlenker‘, *aithesc* ‚Antwort‘, keltische Präverbien auf **-i* und die frühe Apokope von **-i'*. *Zeitschrift für celtische Philologie* 57 (1): 141–60.
- Untermann, Jürgen. 1975. *Monumenta Linguarum Hispanicarum: Band I. Die Münzlegenden*. Wiesbaden: Ludwig Reichert.
- . 1997. *Monumenta Linguarum Hispanicarum. Band IV. Die tartessischen, keltiberischen und lusitanischen Inschriften*. Wiesbaden: Ludwig Reichert.
- Vaan, Michiel de. 2008. *Etymological Dictionary of Latin and the Other Italic Languages*. Leiden Indo-European Etymological Dictionary Series 7. Leiden; Boston, MA: Brill.
- Vaux, Bert. 1995. 'A problem in diachronic Armenian verbal morphology'. In *New approaches to the medieval Armenian language and literature*, edited by J. J. S. Weitenberg, 135–148. Amsterdam: Rodopi.
- Vetter, Emil. 1957. 'Ein gallischer Heilspruch bei Marcellus Empiricus'. In *Studies presented to Joshua Whatmough on his sixtieth birthday*, edited by Ernst Pulgram, 271–75. The Hague: Mouton.
- Villar, Francisco. 1995. *Estudios de celtibérico y de toponimia prerromana*. Acta Salmanticensia 260. Salamanca: Universidad de Salamanca.
- Viret, Jérémie, Pierre-Yves Lambert, Karin Stüber, David Stifter, and Luka Repanšek. 2014. *La défixion gauloise de Chartres*. Extrait des *Études Celtiques*, XXXIX–2013, 123–192. Paris: CNRS Éditions.
- Wagner, Heinrich. 1967. 'Zur unregelmäßigen Wortstellung in der altirischen Alliterationsdichtung'. In *Beiträge zur Indogermanistik und Keltologie. Julius Pokorny zum 80. Geburtstag gewidmet*, edited by Wolfgang Meid, 289–314. Innsbruck: Sprachwissenschaftliches Institut der Universität Innsbruck.

- . 1977. 'Wortstellung im Keltischen und Indogermanischen'. In *Indogermanisch und Keltisch: Kolloquium der Indogermanischen Gesellschaft am 16. und 17. Februar 1976 in Bonn*, edited by Karl Horst Schmidt and Rolf Ködderitzsch, 204–35. Wiesbaden: Reichert.
- Watkins, Calvert Ward. 1962. *Indo-European Origins of the Celtic Verb*. Dublin: Dublin Institute for Advanced Studies.
- . 1978. 'Varia III'. *Ériu* 29. Royal Irish Academy: 155–65.
- Weiss, Michael L. 2009. *Outline of Historical and Comparative Grammar of Latin*. Ann Arbor: Beech Stave Press.
- Willi, Andreas. 2018. *Origins of the Greek Verb*. Cambridge; New York: Cambridge University Press.
- Williams, Ifor. 1930. *Pedeir Keinc y Mabinogi*. Caerdydd: Gwasg Prifysgol Cymru.
- Williams, Nicholas. 2011. 'Middle and Late Cornish'. In *Brythonic Celtic - Britannisches Keltisch: from medieval British to modern Breton*, edited by Elmar Ternes, 237–357. Münchner Forschungen zur historischen Sprachwissenschaft 11. Bremen: Hempen.
- Willmott, Jo. 2007. *The Moods of Homeric Greek*. Cambridge Classical Studies. Cambridge: Cambridge University Press.
- Wodtko, Dagmar S. 2000. Monumenta Linguarum Hispanicarum. *Band V.1. Wörterbuch der keltiberischen Inschriften*. Wiesbaden: Ludwig Reichert.
- . 2003. *An Outline of Celtiberian Grammar*. Freiburg. <http://www.freidok.uni-freiburg.de/volltexte/747/pdf/Celtiberian.pdf>.
- Wodtko, Dagmar S., Britta Sofie Irslinger, and Carolin Schneider. 2008. *Nomina im indogermanischen Lexikon*. Indogermanische Bibliothek. 2. Reihe: Wörterbücher. Heidelberg: Winter.
- Zair, Nicholas. 2012a. *The Reflexes of the Proto-Indo-European Laryngeals in Celtic*. Brill's Studies in Indo-European Languages & Linguistics 7. Leiden; Boston, MA: Brill.
- . 2012b. 'Reconstructing the Brittonic Future/Present Subjunctive'. *Journal of Celtic Linguistics* 14 (1): 87–110.
- . 2014. 'The Future Perfect in Oscan and Umbrian, and the \bar{o} -perfect in South Picene'. *Transactions of the Philological Society* 112 (3): 367–85.
- . 2015. 'Old Irish *gniid* "makes, does", Middle Welsh *gweinydaf* "serve", and *i*-presents'. *Zeitschrift für celtische Philologie* 62 (1): 213–22.
- . 2018. '119. The shared features of Italic and Celtic'. In *Handbook of Comparative and Historical Indo-European Linguistics - An International Handbook*, edited by Jared S. Klein, Brian D. Joseph, and Matthias Andreas Fritz, 3:2030–37. Handbücher zur Sprach- und Kommunikationswissenschaft 41. Berlin; Boston: De Gruyter Mouton.
- Zavaroni, Adolfo. 2008. 'La bilingue gallo-camuna di Voltino e CIL V 4883'. *Ollodagos* 22: 15–38.

- Zeuss, Johann Kaspar. 1853. *Grammatica Celtica: e monumentis vetustis tam hibernicae linguae, quam britannicae dialecti cambricae, cornicae, armoricae, nec non e gallicae priscae reliquiis*. Leipzig: Weidmann.
- Ziegeler, Debra. 2004. 'Redefining Unidirectionality: Is There Life after Modality?' In *Up and Down the Cline – the Nature of Grammaticalization*, edited by Olga Fischer, Muriel Norde, and Harry Perridon, 115–36. *Typological Studies in Language* 59. Amsterdam; Philadelphia: John Benjamins.
- Ziegler, Sabine. 2004. 'The Development of Relative Clauses in the Celtic Languages'. Verona, March. <https://www.yumpu.com/en/document/read/22663118/keltische-relativsatze>.

7 Appendix: Images of key inscriptions

7.1 Lepontic



Voltino Bilingual Inscription

Lexicon Leponticum BS·3

Latin/Lepontic(?)

Late C1 BCE-early C1 CE

Photo: Morandi (2004:2:806)

Transcription (LexLep):

Latin:

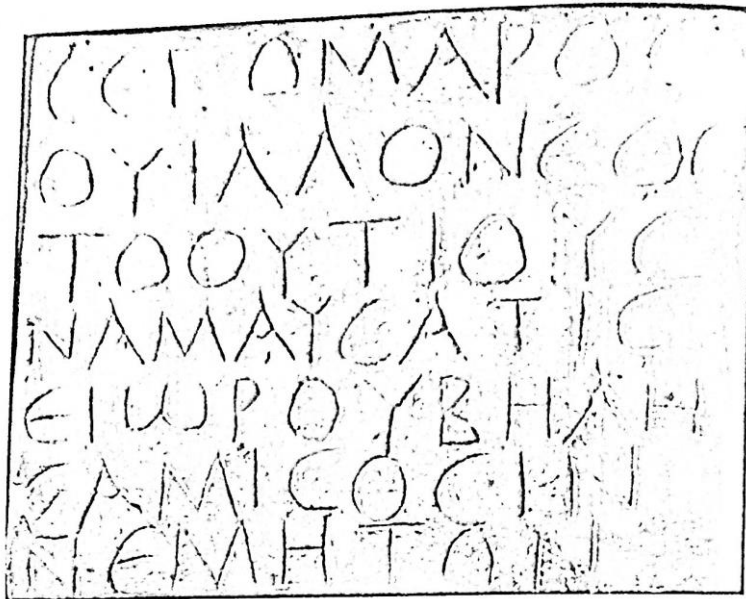
tetumus sexti dugiaua

saśadis

Lepontic(?):

θomezecuai obauzanaθina

7.2 Gaulish



RIG G-153

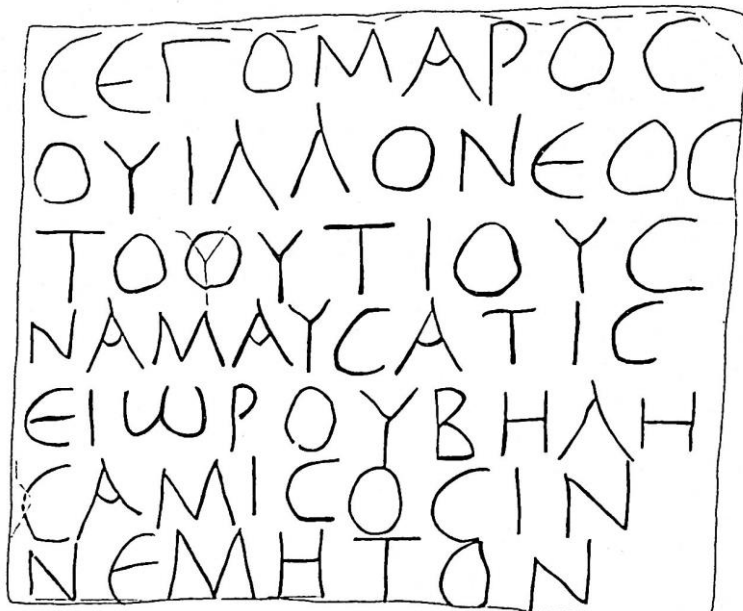
Gaulish (Greek script)

Date uncertain

Photo and drawing: RIG

Transcription (RIG):

σεγομαρος | ουιλλονεος |
τουτους | ναμαυσατις |
ειωρου βηλη|σαμι σοσιν |
νεμητον





RIG L-31

Gaulish (Latin script)

C1 CE

Photo: Marichal (1988:136),
rotated 90°

Transcription (RIG):

**sioxti · albanos | panna ·
extra tuθ CCC**



RIG L-33

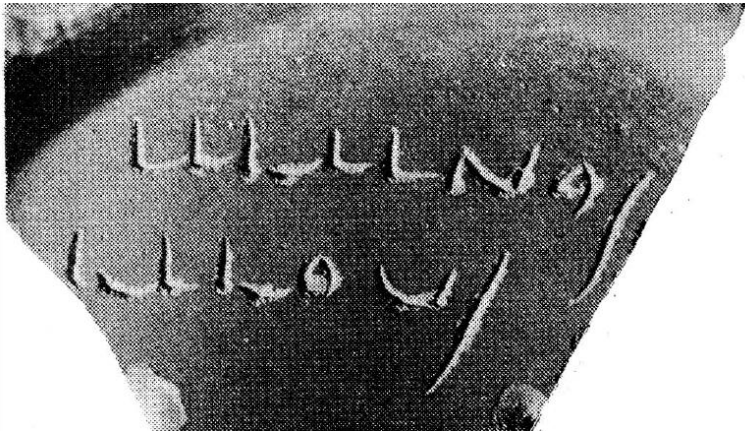
Gaulish (Latin script)

C1 CE

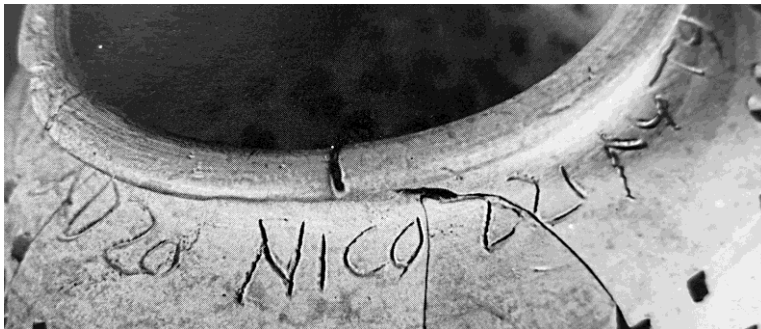
Photo: Marichal (1974)

Transcription (RIG):

lenos | lustas



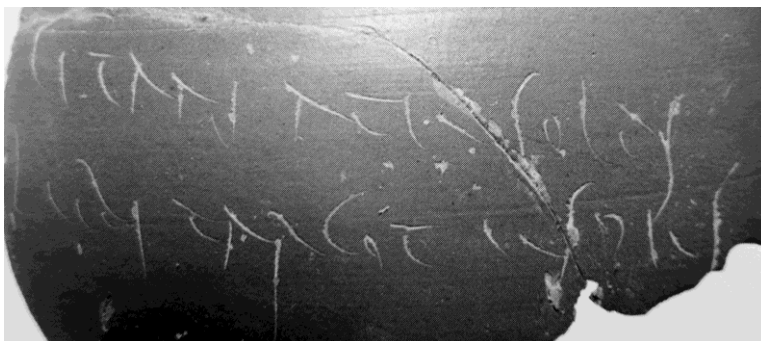
RIG L-34
Gaulish (Latin script)
C1 CE
Photo: Marichal (1988:201)
Transcription (*RIG*)
elenos | lilous



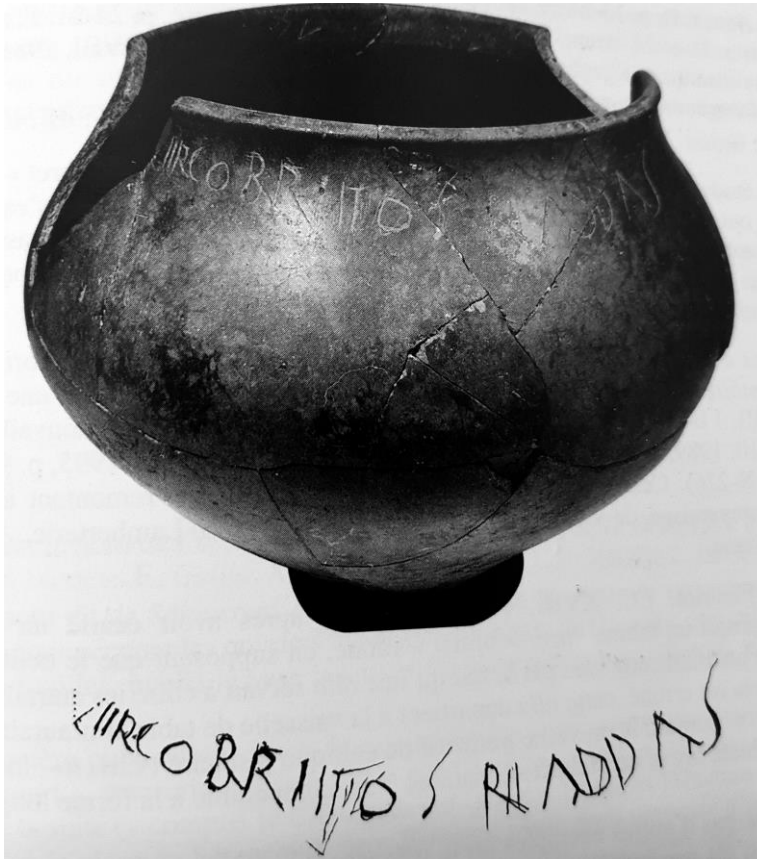
RIG L-44
Gaulish (Latin script)
C1 CE
Photo: *RIG*
Transcription (*RIG*)
Out of shot:
peculiarosiruni
In shot:
afro nico lliauto



RIG L-49
Gaulish (Latin script)
C1 CE
Photo: Pauc (1972)
Transcription (*RIG*)
**]...redresta |
inuertamonnantou**



RIG L-53
Gaulish (Latin script)
C1 CE
Photo: *RIG*
Transcription (*RIG*):
**citan ate solos (or citmi ate
solds) | lubi tarcot esoes**



RIG L-78

Gaulish (Latin script)

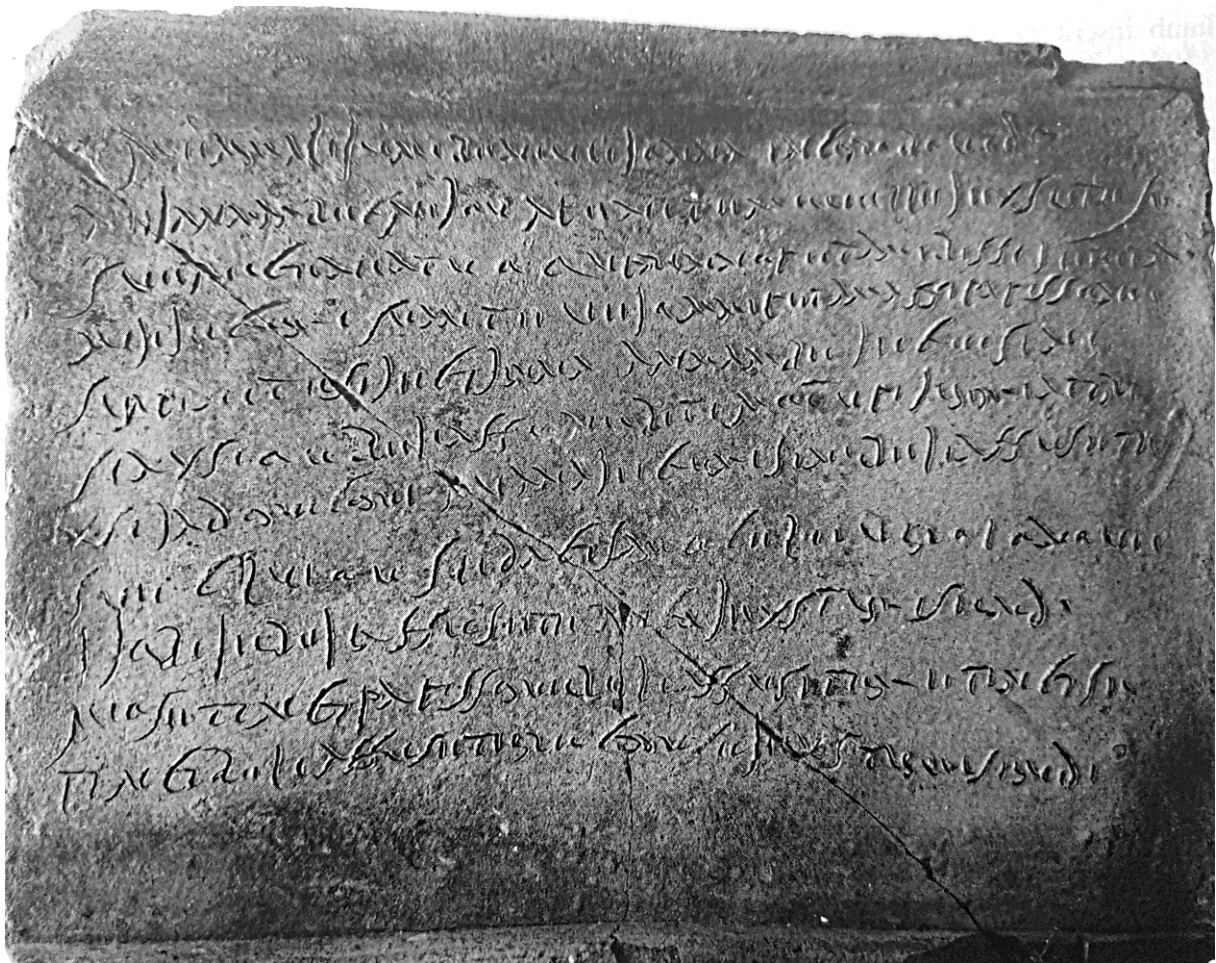
Early C1 CE

Photo and drawing: *RIG*

Transcription (*RIG*):

VIIRCOBRIITOS RIADDAS

(i.e. *UEROBRETOS READDAS*)



Gaulish (Latin script); C3-4 CE(?); Photo: RIG (Sharpened)

Transcription (RIG):

Nemnaliūmi beni. ueíonna incorobouido
 neíanmanbe gniíou apenitemeuelle íexsetesi
 sueregeniatu o quprinnopetamebissi íeteta.
 miíi íegumi. suante ueíommi petamassi Papissonne
 suiřęxetesi íegiíinna anmanbe íeguisini
 siaxsiou beíiassunebiti moj upiíummiateri
 xsi índore core. Nuana íegumisini · beíiassusete
 sue cluio u sedagisamo cele uiro íonoue
 ííobiíe beíiassusete Rega íexstumisendi
 me · setingi Papissonnebeíiassusetemetingise
 tingibeíiassuseteregařise íexstumisendi



RIG L-101

Gaulish (Latin script)

Late C1 – Early C2 CE

Photo: Fleuriot (1986:64,
sharpened)

Transcription (RIG):

A:

**lutura īeui...
secoles pom..n..
treans agabxso..
triaram...
tri catic.nus
ol..x secoles**

B:

**bueti daelus
mendicos
..nitix orus
ioatinca lao
bumeioda..
rincituso
unasioda**