THE SOUND OF INDO-EUROPEAN

Phonetics, Phonemics, and Morphophonemics

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Lenition of *s* in Gaulish?

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Through all periods of Gaulish, viz. Early, Middle and Late Gaulish, the sibilant *s* is amply attested in word-initial, word-medial and word-final position in the vernacular language material. Therefore it is inadmissible to assume a general rule of "lenition" of *s* (i.e. aspiration or loss). A close examination of the material reveals, however, that a set of very specific rules of *s*-deletion operated on the language: first, loss of *s* in word-initial position in proclitics; secondly, loss of *s* in the onset of second syllables when the first syllable also started with *s*; thirdly, assimilation of *s* to resonants. These three rules probably operated at the Common Celtic stage. A fourth rule, the optional weakening and loss of word-final *s* affected Gaulish from the Middle Gaulish period onwards and is a development not shared by Vulgar Latin of the time.[1]

1   The Periods of Gaulish

In the study and description of the Gaulish language, the observable linguistic differences between the texts, attested during a time span of at least five to seven centuries, necessitate a distinction between several historical stages. To my knowledge, Watkins (1955: 14) was the first scholar to apply explicit criteria for a periodisation of Gaulish. He distinguished between "Early Gaulish" (second c. BC), "'Classical' Gaulish" (first c. BC) and "Late Gaulish" (first c. AD). He defined these periods long before the discovery of the long documents of Gaulish (Chamalières, Larzac, Châteaubleau), and therefore they fail to account for those manifest differences that have come

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to light in the meantime. *Mutatis mutandis*, the same is true of Lambert's (1997: 396) twofold distinction between "gaulois ancien" for the language before Christ and "gaulois tardif" for the period afterwards. This definition was written on the eve of the discovery of the long tile inscription from Châteaubleau in 1997, which must be regarded as the most important Late Gaulish document to date. In the latest volume of *Recueil des inscriptions gauloises* (RIG), and therefore already with a knowledge of the Châteaubleau tile, Lambert (RIG II.2 9) seems to have shifted the time-scale for Late Gaulish forward a century. Finally, De Bernardo Stempel (2006: 51–52) has argued for a threefold division of Gaulish (Archaic, Classical and Late Gaulish). However, she produces geographical criteria for her chronological periods, thereby mixing parameters that as such are independent of each other.

Other scholars have used terms like "Late Gaulish" rather vaguely and impressionistically.

Given this lack of a widely accepted and widely acceptable chronology of Gaulish, it is high time to set up better-defined criteria for a new, refined periodisation of the language, criteria that take into account those phonological, morphological and extralinguistic factors (e.g. palaeography) that condition the transmitted corpus of the Gaulish language. I want to briefly sketch what such criteria might look like.

First, there is the corpus of Gaulish inscriptions in Greek letters. This corpus is chronologically and geographically very restricted, coming from a small area in the south of Gaul and belonging preponderantly to the first two centuries before Christ. The Gallo-Greek corpus forms the oldest portion of transmitted Gaulish; consequently, this can be called the Early Gaulish (EG) period. The handful of Cisalpine Gaulish texts in Etruscan script from Italy also belongs here.

After this period, with a little overlap, we find the much larger corpus of Gaulish inscriptions in Latin script. There are several arguments for introducing a sharp break between the Gallo-Latin texts and Early Gaulish. Some are geographical: the Gallo-Latin texts come from the whole of Gaul, not from a limited area. Other arguments are palaeographic: the Roman script is now the sole means of writing,[2] and a wide variety of genres is

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2   In rare cases, the use of the Greek script continued in small pockets like Alisia into the second half of the first century AD.

found, not only dedications on stones and marks on pottery. In purely lin-
guistic terms, however, the differences between the two stages are admit-
tedly slim. The main phonological difference seems to be that word-final
-ai became *-ī*, probably in the first century BC.[3] Despite being pho-
nologically marginal (it did not alter the overall phonological system), this
change had an impact on morphology because it led to the merger of *ā*-
and *ī*-stems in the dative singular. As a consequence, these two inflectional
classes began to converge also in the accusative, genitive and instrumental
singular, at least as far as personal names are concerned. Apart from this,
no essential, diachronically distinguishing variation in phonology has been
identified.

The corpus of Gallo-Latin inscriptions can be further divided into
groups. For this purpose, it is useful to take into consideration the number
of texts surviving from the different periods. The chart on the next page
contains all those Gallo-Latin inscriptions for which a date, however ap-
proximate, can be found in RIG. This amounts to about two thirds of the
altogether 158 inscriptions. The texts have been arranged in chronological
order. An absolute date is not known of any Gaulish inscription, and only
relatively few of them have been dated more or less precisely on circum-
stantial evidence like archaeological context, palaeography, art style, his-
torical events, etc. The bars indicate the time spans which have been ar-
rived at for the individual inscriptions. Occasionally, the bars span more
than a century.

The chart is revealing in several respects. The great bulk of Gaulish in-
scriptions, 82 out of 102, are associated with the first century AD, or before
or slightly afterwards. 14 can be similarly ascribed to the second century,
and only six are of a later date. It may be deduced from this distribution
that the Gaulish language remained relatively well-entrenched in Gaulish
society up to the end of the first or the middle of the second century. From
the number of texts and from certain re-occurring, non-trivial ortho-
graphical conventions like the use of the Greek letters χ and ϑ/δ for spe-
cifically Gaulish sounds, it is clear that Gaulish must have been a written
language during this period, with all implications of a literate tradition.

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3   Cp. εσκεγγαι βλανδοουικουνιαι (G-146; Gargas, Vaucluse) vs. βηλησαμι (G-153;
Vaison-la-Romaine, Vaucluse); both inscriptions are undated.
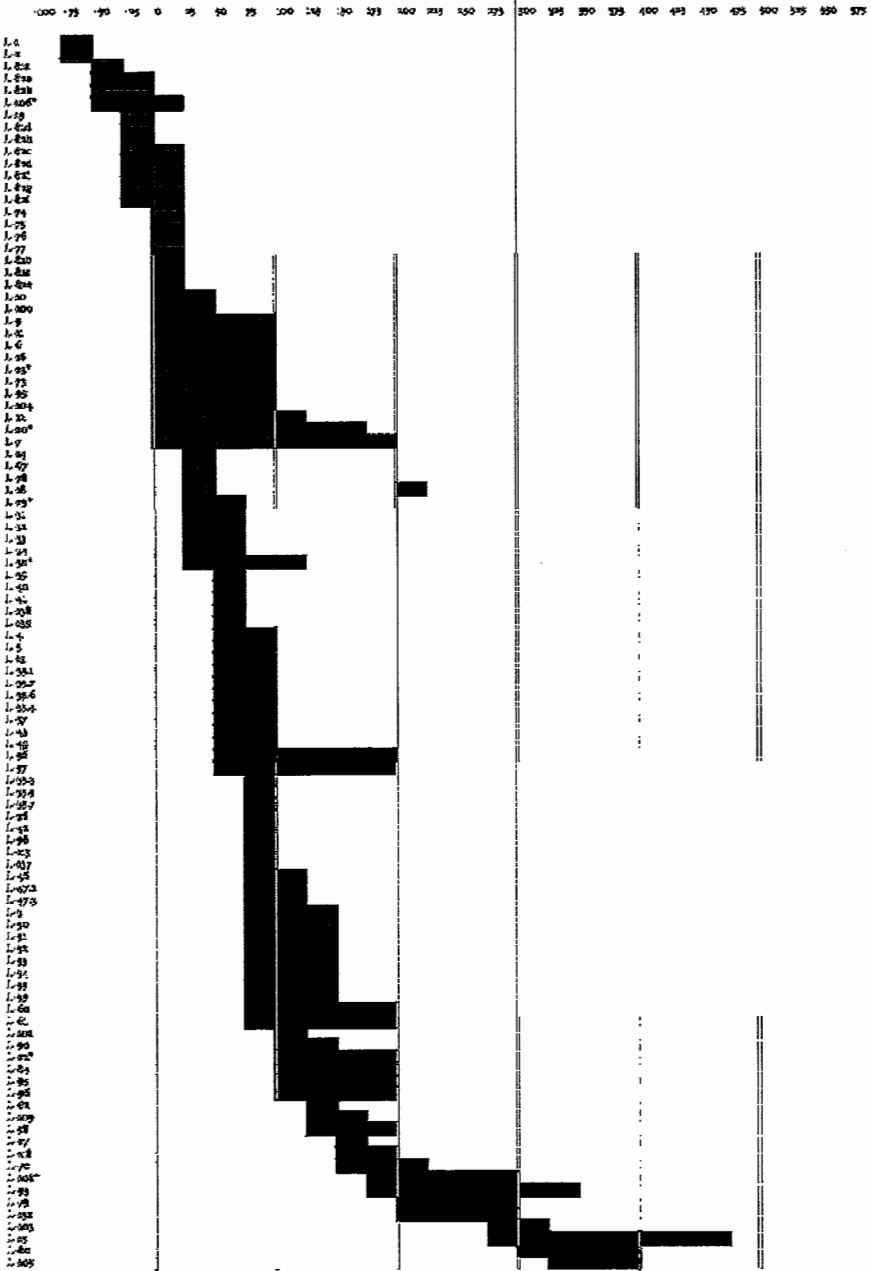
After that time, the number of inscriptions declined dramatically. The language must have lost ground massively and rapidly among those portions

of the society that would previously have been interested in writing in the vernacular mother tongue and would thus have given it sociolinguistic support. Although being evidence of a different nature, the rare references to the Gaulish language in classical, mainly Roman, literature are in agreement with these provisional conclusions (cf. Lambert 2003: 10).

When prominent textual representatives of Gaulish of the first century AD, e.g. the long inscriptions from Chamalières and Larzac, are compared with the most important representative of the late period, the tile from Châteaubleau, it is immediately recognisable that several important phonological, and in consequence morphological, changes have taken place. The most conspicuous feature which distinguishes the two groups is that the earlier texts retain word-final consonants, whereas the later text shows a very pronounced tendency towards dropping consonants in this position. The only word-final consonant found in Châteaubleau is -*n* in monosyllabic *in*. Therefore it seems appropriate to distinguish within the Gallo-Latin corpus between two different periods, for which the designations Middle (MG) and Late Gaulish (LG) suggest themselves. The dividing line is best placed around the change from the second to the third century, or perhaps half a century earlier. Other texts belonging to the late period like L-103 and L-108, although very difficult to interpret, suggest that, like in British and Irish, complex clusters like the 3pl desinence -*nt* were immune to the loss of final consonants; *a fortiori*, it may be assumed that -*r* was also retained, but no example has turned up so far.

The practical advantage of a three-fold periodisation is that it makes it easier to talk about developments of the language which are unquestionably retrievable from the Gaulish data, and that it puts them into a conventionalised chronological frame and order.

2   "Lenition" in Gaulish

After these preliminaries, a problem of Gaulish phonology will be discussed, one which itself forms part of a larger complex that bears the general label "lenition". Lenition is an extremely important phonological and morphological process of the Insular Celtic languages. Various arguments have been advanced to support the notion of the same or similar phenomena in Gaulish. In the context of Gaulish, however, "lenition" usually

refers to purely phonetic, not morphophonological processes (but see Schrijver 1998–2000: 137).

Methodologically, it is a difficult task to find evidence for a phonetic phenomenon like lenition in a written corpus. This task is aggravated if the writing system originally belonged to a different language with a different phonology. A further complicating factor is the question of whether a text was written by a native speaker or by someone only partially familiar with the language, and whether the addressee was native or not. Various factors can be expected to interfere: the scribe of a text may have attempted to represent a lenited allophone phonetically or phonologically or according to the sound system of a different language; dialectal variation is practically impossible to assess as a factor. *A priori* it can be expected that lenition will be graphically detectable only when a segment has become similar to or has merged with another segment or when it was completely lost and thus was no longer represented in writing. Not least the Insular Celtic languages teach us what twists and contortions can be expected in such situations.

The question to be addressed here is that of the alleged lenition of Proto-Celtic (PC) $*s$ < PIE $*s$.[4] In scholarship on Gaulish (e.g. RIG II.2 385, Schrijver 1998–2000: 137), the notion can be encountered that under certain – typically unspecified – conditions, s was either weakened to h, as in Iranian, or was completely lost as a segment, as in some dialects of Ancient Greek. Although the lenition of s is not uncommonly alluded to, I am not aware of a systematic study of the problem. The question can be broken down into three sub-questions, namely the treatment of initial, medial and final s, to be treated separately in sections 3, 4 and 5 below.

For reasons of space, the study will be occupied mainly with the vernacular sources of Gaulish, that is, with those inscriptions collected in RIG that were presumably made by speakers of Gaulish. Other types of sources, that is *Nebenüberlieferung* in Roman and Greek literature, medieval and modern placenames and loans into foreign languages, are also very important and revealing, especially in regard to the present problem. In this material, the sound s is retained in all positions in a vast number of examples. However, these sources pose problems that are too complex methodologically to be discussed more than in passing here. The main *caveats*

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4   In contrast to the sibilant that arose secondarily in Celtic from dental clusters, the so-called *tau Gallicum*.

are: loanwords can involve sound substitutions (e.g. the replacement of a "lenited" = weakly articulated sibilant in the donor language by a fully articulated [s]); petrified historical stages of the involved languages (i.e. a word could have been borrowed at an early stage before lenition affected the donor language); not to speak of the effects of interference by the phonotactic rules of the borrowing languages. Therefore, despite being attested in an overwhelming number of examples, retained etymological *s* in loans from Gaulish into other languages cannot be taken as proof of the retention of the sound in Gaulish. On the other hand, alleged examples of lenited *s* in external sources merit attention. It is a working hypothesis of this study that in accordance with the orthographic rules of Greek and Latin the letter ‹s›, when spelled out in vernacular sources, stands for [s] and is not a chiffre for aspiration or some other secondary segment, as it is in Old Irish orthography.[5] Because of the limited space, the following discussion will not go into the minutiae of each item, but will sketch the outlines of the argument.

3   Initial *s*

3.1   The case for an alternation of PC *s* with *h*/∅ in initial position was brought up by Whatmough (1931: 144–145). Although his treatment did not explicitly refer to Celtic, it was so understood by his peers and it was so cited by his successors. In any case, the idea was exclusively based on ill-founded etymologies, or on material connected with severe philological problems or on material that was not Celtic at all. About half a dozen forms used to be cited: the variants Σαλπίων beside *Alpes, asia* 'rye (?)' beside W *haidd* < **sasiā, saliunca* 'a plant' beside ἀλιούγγια, *segusia* 'a kind of dog' beside ἐγούσια, *silis* 'a plant' beside *ilis, salicem* 'willow-tree' beside *halicem*. All of this has been rejected most aptly by Pokorny (1948–9: 254–255) and can be skipped here.

3.2   Two items from Whatmough's study, however, merit special inspection. Even very recently and very prominently in Indo-European studies

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5   I am not aware of evidence like spelling alternations with and without *s* that would actually support such a notion.

(Watkins 1999: 539–540, Schrijver 2004: 14), the first element *hall* in the placename *Hallstatt* and its relatives has been considered to continue the PIE word for 'salt', **sal*, displaying a "Celtic" lenition to **hal*. As I have tried to show in Stifter 2005, this is only a pseudo-problem. There is no reason to believe that the names *Hallstatt, Hallein* etc. have anything to do with Celtic, even though some of the places may have been inhabited by Celts in the La Tène period. The distribution, the attested history and the phonology and morphology of the names rather point to a Germanic origin.

3.3   The other item is *Helinium*, the ancient name for the large estuary of the rivers Maas and Waal in the modern Netherlands. The name is attested a single time in Pliny the Elder's *Hist. Nat.* 4,101. Variant readings are *Hellinium, Elinium, Helinum, Helium*. The book was published in 77 AD and written shortly before. The *terminus post quem* for the name to have come to the attention of Romans and to have entered the Latin language is shortly before 50 BC during Caesar's conquest of Gaul. Schrijver (1995a: 37–39) proposed deriving *Helinium* from the Proto-Celtic word **selos* 'marsh', reflected, for example, also in W *heledd* 'salt-pit, brine-pit, salt-marsh, salt-boilery', *hêl* 'meadow alongside a river, moor, marsh', Corn. **heyl* 'estuary'. Regardless of the correctness of Schrijver's explanation of W *hêl* etc. and of Corn. **heyl*, his proposal for *Helinium* is faced with severe problems. The alleged British-style lenition of *s > h* in *Helinium* would be much earlier than the date which is usually assigned to the analogous change in British proper, i.e. sometime before 600 (Sims-Williams 2003: 286, 291). If Schrijver's (1995b: 377–383) account of the development of British *s* is correct, the allophonic development to *h* could have occurred already by the first c. AD. Nevertheless, its phonemicisation did not occur until the much later date indicated above. If *Helinium* were a quasi-"British Celtic" name, the phonemicisation of *h* would still have occurred centuries earlier than in British proper. This led Falileyev (2006: 307–308, 313) to reject Schrijver's proposal and to propose a derivation from the PIE root **pelh₂-* 'to approach' instead. However, it is questionable if *Helinium* should be considered Celtic at all. In a study of Celtic placenames in Europe, the immediate southern vicinity of *Helinium* (the square between +4 and +5 degrees longitude and +50 and +51 degrees latitude, largely in present-day Belgium) displays a low ratio of Celtic elements (Sims-Williams 2006: 178–179, 182). In fact, *Helinium* is one of three elements – all of which are

doubtful – that serve as evidence for the possible Celticity of the area. Other names of the region are patently Germanic. In the first c. AD, that is, at the time when the name is attested, the area was inhabited by the Bataui, a people that is suspected to have been linguistically Germanic (cf. RGA s.v. *Bataver*). Moreover, it must be considered what the value of the initial ‹h› actually is. To assess this correctly it is necessary to look at the context in which Pliny mentions *Helinium*. In paragraphs 96–101 several Germanic peoples are named. Among them are the *Charini, Chatti, Chauci, Cherusci*, as well as the *Hilleuiones, Hirri, Hermiones, Hermunduri*. The first four of these names represent forms that contain initial **h-/χ-* (see the etymological suggestions collected in Sitzmann & Grünbaum 2008: 89–96). The remaining four are either suspected of being corruptions altogether or they represent names with initial vowels (Sitzmann & Grünbaum 2008: 113–115, 177–178). The pattern is clear: in this context, Pliny uses the digraph ‹ch› for the sound /h/; the letter ‹h›, however, at the beginning of the words is unorganic and may be said to serve as a marker for exotic words. It is well possible that the same is true of *Helinium* and that its ‹h› has no phonetic meaning at all. In that case, the similarity with the modern placename *Hellevoetsluis* and names like *Hel, Helle* etc. in approximately the same region must be superficial and due to chance.

The vernacular corpus of Gaulish contains a large number of words with initial *s*, from all three chronological periods. The following is a small collection, consisting only of forms with fairly certain etymologies:

- EG: Σαμ[ο]ταλο[ς] (G-257) < PIE **smHo-* 'summer', Σεγομαρος (G-153) < PIE **seĝh-* 'to vanquish, get control', Σενικιος (G-219) and Σενο[...] (G-160) < PIE **sen-* 'old', SETUPOKIOS (E-1) < PIE **sentu-* 'path, way', Σιλουκνος (G-119) < PIE **seh₁-* 'to sow', σοσιν (G-153) ultimately < PIE **so-* 'this', etc.
- MG: *sagitiontias* (L-98 2a8–9, 2b10) < PIE **seh₂g/ĝ-* 'to follow a trail', *se* (L-98 1a1, etc.) ultimately < PIE **so-* 'this', *sies* (L-98 2b9) < PIE **sih₂-* 'she', *sioxti* (L-31) < PC **sesoCt-* (see below), *so* (L-95), *sos* (L-100.3) and *sosin* (L-13) ultimately < PIE **so-* 'this', *suiorebe* (L-6) < PIE **suesor-* 'sister', etc.
- LG: *sendi* (L-93 9, 11) ultimately < PIE **so-* 'this', *siaxsiou* (L-93.6) < PC **sisāgsiiū* 'I will search', *sini* (L-93 5, 7) and *sosio* (L-79) ultimately < PIE **so-* 'this', *suante* (L-93 4) < PC **suantā* 'desire', *sui/e* (L-93 3, 5, 8) < PC **suī(s)/sue* 'you (pl.)' (?).

3.4   The number of words beginning with *s*, but without certain etymologies, is far greater than this list. As such it disproves the general lenition of word-initial *s*. However, the vernacular corpus contains two forms which can be analysed with some plausibility as showing loss of word-initial *s*: *indas* and *onda*, both in the inscription from Larzac.[6] Both precede a noun, and both apparently function as determiners of their nouns, with which they agree in the endings. This has led to the suggestion that they correspond etymologically to the Insular Celtic article, OIr. *in*, OW *ir*, MW *y(r)*, OB *in*, MB *en*, *an*, MC *en*, *an*, all < **sindos* (see DLG 274 s.v. *sinde*, McCone 1996: 98, Schrijver 1997: 49), and to the demonstrative pronoun MW *hwnn*, MB *henn* < **sondos*, OIr. *sund* 'here' < **sondū* (see DLG 241–242, Schrijver 1997: 48–49) respectively. The spelling does not reveal whether *s* has been completely lost or whether [h] is present at the beginning. For want of a convincing alternative explanation, these etymologies can be accepted. Because Gaulish is an article-less language, *indas* and *onda* cannot be mere definiteness-markers, but they must have demonstrative value. Beside *indas*, the Gaulish corpus contains the forms *(in)sinde* (L-98 1a1) and *sendi* (L-93 9, 11) with initial *s*, both of which most likely go back to the same etymon as *indas*. The functional difference between *insinde* and *sendi* on the one hand and *indas* on the other hand is that the first two function as independent demonstratives, performing the roles of fully stressed nouns, whereas the latter is used attributively before its head noun. The obvious explanation is that the loss of initial *s in *indas*, as well as in *onda*, is connected with weak stress.

The contrast between pretonic *indas*/*onda* without *s* and stressed and posttonic *sinde*/*sendi* with it is reminiscent of the behaviour of their cognates in the Insular Celtic languages. In pretonic position, as an article, **sindos* lost its initial *s* not by the normal Insular Celtic lenition, but by an early rule of *s*-deletion in unstressed words (McCone 1996: 98). In contrast to this, **sondos* appeared either in stressed or in posttonic position. There the initial phonetic segment was retained and experienced the normal treatment of *s*, i.e. it became *h* in British Celtic. Two deductions can be drawn from this: Gaulish underwent a rule of *s*-deletion in unstressed words similar to that in Insular Celtic, but unlike in Insular Celtic, the de-

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6   L-98 1b6–7: *in|das mnas*; L-98 1b13: *incorsonda b*[...], 2a2: [...]*onda bocca*, 2a3: *onda boca*, 2a11–12: |*da bocca*[....](?)).

monstrative pronoun *sondos* was used in pretonic position in Gaulish, thereby feeding the rule of *s*-deletion.

There is, however, another attributively used, i.e. presubstantival demonstrative in Gaulish, namely neuter *sosin* (G-153, L-13) with initial *s* in all attestations. Descriptively, the treatment of *sosin* runs counter to what has just been said about *indas/onda*. In order to account for the divergent behaviours, it must be hypothesised that these are the result of a chronological difference. The formation of the demonstratives **sindos* and **sondos* ← **sim-de* and **som-de* (following Schrijver 1997: 29, 45) could belong to an early period before *s*-loss, but *sosin* < **so-sin* (Schrijver 1997: 48) was only formed after that rule had applied.

4   Final *s*

4.1   In Early Gaulish inscriptions,[7] final *s* is always written where it is expected. A selection: *o*-stem nom. sg. KUITOS (E-1), Ουηβρομαρος (G-27), *i*-stem nom. sg. ναμαυσατις (G-153), *ā*-stem gen. sg. TOUTAS (E-1). The sole exception is the dat. pl. in *-bo* (e.g. ματρεβο ναμαυσικαβο, G-203). The corresponding endings Celtib. *-bos* and Lep. *-pos* (CO·48), as well as the Noric dat. pl. ending *-bos* in Latin inscriptions (Wedenig & De Bernardo Stempel 2007: 622), render it probable that the PC form was **-bos* < PIE **-bʰos* and that Gaulish lost the final *s* in this morpheme. However, because of the consistency with which *s* is absent from this and from the similar ending *-bi* of the instrumental plural in all periods of Gaulish, it is likely that we are here confronted not with an instance of phonetic weakening, but rather with a morphological, *nichtlautgesetzlich* transformation that Gaulish had undergone during an early phase of its development. It is easiest to assume that PC **-bos* became **-bo* under formal influence from originally *s*-less PC **-bi* < PIE **-bʰi*.[8]

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7   Coin legends are not included in the survey. The limited space on coins forbids the drawing of any conclusions about the treatment of the end of words.

8   Assuming that that was the PIE form. Accordingly, it must be assumed that **-bis*, the apparent precursor of the OIr. ending *-(a)ib*, received its *s* under the inverted influence from **-bos*.

4.2   In Middle Gaulish, final *s* is widely preserved. Again a selection: *o*-stem nom. sg. *Rextugenos* (L-22), *Taruos* (L-14), *tuϑos decametos* (L-29.10), *ā*-stem gen. sg. *Sullias* (L-22), *ā*-stem acc. pl. (?) *sagitiontias* (L-98 2a8–9, 2b10), nom. pl. *sies* (L-98 1a7, 2a5, 2b9), acc. pl. *sos* (L-100 3). Nevertheless, *s*-less forms can sometimes be encountered (see also Evans 1967: 397–398). Leaving aside those texts which are not amenable to interpretation as well as those for which a tendency towards abbreviation has been argued (Lambert 1997: 402–405), there is one group of texts, dating to the middle of the first c. AD, which do show occasional loss of *s*. In the potters' graffiti from La Graufesenque, around 15% of the relevant forms, mainly nom. sg., lack final *s* (Marichal 1988: 68–70), even though no rules for its absence or presence can be determined. Examples: *o*-stem nom. sg. *cassidanno* (L-29.19), *Masueto* (Marichal 1988: 120), *oxtumeto* (L-29.6), *ā*-stem acc. pl. *panna* (L-31). A recently discovered inscription on a spindle-whorl, dating to 90–125 AD (L-140, Lambert 2008: 112), reads *cara uimpi* | *tocaranto*. *Caranto* could reflect the genitive **karantos* of PC **karant-* 'friend' with loss of final *s*. The low proportion of *s*-less words and their presence in texts of daily use suggest that omission of final *s* was a diastratic phenomenon. The sibilant was retained in the elevated register, but there was a tendency towards its loss in informal language.

4.3   Perhaps the articulatory omission of final *s* was a phonetic option throughout all historical phases of Gaulish. In that case it might be expected that the ratio of *s*-less words increased towards the later phases of the language, especially when the language's retreat from higher sociolinguistic domains opened the gates for features of informal style to enter those registers that were considered as formally correct. However, the Late Gaulish material is not easy to interpret, largely due to the uncertain interpretation of the handful of preserved texts. The understanding of the textual structure of the Châteaubleau tile (L-93), the longest Late Gaulish text, is still in its infancy. Therefore, compelling syntactic arguments are lacking for a convincing demonstration that the text contains phrases that require an ending -*s* (e.g., *o*-stem nom. sg., animate acc. pl.). Some forms in -*o* could be accusatives with lost nasals (*coro bouido*); the function of others I judge undetermined (*quprinno, dagisamo, uiro, iono*), although there has been no lack of attempts at interpretation and translation. It has been suggested that the sequence *sue* (3, 8; the reading of *sui* in 5 is doubtful)

reflects the 2pl personal pronoun 'you' (Lambert 1998–2000: 96–97, 109). However, even if this is correct, it does not verify the loss of *s*. As Katz (1998: 277) argues, the Insular Celtic pronouns of the 1pl and 2pl (e.g. OIr. *sní*, MW *ni* 'we', and OIr. *sí*, OW *hui*, MW *chwi* 'you') can be reconstructed as **sní* and **suí* and do not require final *s*. This reconstruction may find support in *sní* on the lead plate from Chamalières (L-100 3; a text in which final *s* is otherwise retained), if this is the 1pl object pronoun. In short, the case for the phonetic loss of final *s* is not watertight and its absence from the Châteaubleau tile may be a mere coincidence. Other Late Gaulish testimonies are equally ambiguous. L-15 contains a nom. sg. *Vabros*, but the dating of this inscription is entirely unclear; perhaps it does not belong to Late Gaulish at all. L-103, the notorious lead plate from Rom, defies all attempts at an interpretation. It seems as if there are no words ending in *s* in the text, but given the difficulty to understand it the same *caveat* applies as with Châteaubleau. On the other hand, the fragments of a lead plate from Bath (L-108),[9] despite being as intractable as L-103, seem to have final *s*. Nevertheless, one cannot be sure whether those desinences are not owed to the regularising influence of Latin school education. Finally, the glass vessel from Villa d'Ancy (L-132) has a final *s* in *ibetis*, which again could be owed to Latin. Other Late Gaulish texts (L-70, -79, -80) do not contain relevant or analysable data.

While it is evident from low-register texts like the graffiti from La Graufesenque that there was a tendency towards weakening and loss of *s* at the end of words already in Middle Gaulish, it cannot be demonstrated that the sound was completely lost in a regular fashion in all registers towards the end of the Gaulish language. It may be worthwhile to take a wider look at the linguistic environment of late antique Gaul. In the Vulgar Latin of Gaul, final *s* was not lost, as it survived into the Old French period (Banfi 1996: 169, 187–188). Its eventual disappearance from French is a separate development of the high middle ages. Since it is indisputable that Gaulish and Latin interacted in Roman-age Gaul and went through various developments in tandem, it may be suggested that the loss of final *s*, which was on its way in Middle Gaulish, was retarded or even counteracted through Vulgar Latin influence in the later period.

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9   Assuming that the language in Bath was the same as in Gaul.

5   Medial *s*

Word-internal *s* poses the most controversial problems. Hundreds of examples of retained intervocalic *s* in the *Nebenüberlieferung*, in placenames, in loanwords, and, not least, in vernacular inscriptions throughout all periods bear strong witness that there can be no talk of an unconditioned lenition of medial *s* in Gaulish. A selection from vernacular sources:

- EG: AKISIOS (E-2) ← PIE *$h_2$ek̂es-* 'sharp tip' (?), *Βηλησαμι* (G-153) < PC *bel-* 'strong' or 'bright' (?) + superlative suffix *-ismh_2o-*, *ροκλοισιαβο* (G-65) < *pro-k̂leu̯esio-* 'very renowned', *σοσιν* (G-153) < PC *so-* + *sim* 'this', etc.
- MG: *Alisia* (L-13) ← PIE *$h_2eliseh_2$* 'alder-tree' (?), *Aresequani* (L-12) < PC *$ φari$* 'in front of, on, by' + *Sequana* 'name of a river', *caneco-sedlon* (L-10) < *caneco-* (?) + PIE *$sedlo$-* 'seat', *sosin* (L-13) < PC *so-* + *sim* 'this', etc.
- LG: *Alixie* (= /alisii̯ē/) (L-79) ← PIE *$h_2eliseh_2$* 'alder-tree' (?), *dagisamo* (L-93 8) < PC *$dago$-* 'good' + superlative suffix *-ismh_2o-*, *sosio* (L-79, L-103) < PC *so-* + *$si̯od$* (?) 'this'.

5.1   Nevertheless, the notion of a broadly operable, albeit ill-defined rule of intervocalic *s*-loss continues to haunt etymological literature on Gaulish. In the present discussion only such forms will be included for which comparatively plausible etymologies with medial *s* have been proposed. The first one is *tioinuoru/e* on a clay cup from Banassac (L-52). Apart from the final vowel, which is of no importance here, the reading is certain. Whatever the analysis of the entire text is, it is plausible that *tioinuoru/e* is the verb. The last part *-uōru/e* is perhaps to be identified with OIr. *·fúair* 'found' < *$-u̯eu̯re$* ← *$-u̯eu̯rū$* (see DLG 297, KP 681–683). In the first part, Lambert suggests either a combination of a preverb *tio-*, restricted to Gaulish, plus the masculine infixed pronoun *$-(s)in$-* or the preverb *ti-* + neuter infixed pronoun *$-(s)o(s)in$*. In either case, lenition of *s* would have to be acknowledged. But the object of the verb is most likely to be seen in the preceding phrase (*billicotas*) *rebellias*, patently a feminine accusative plural under this analysis. A masculine or neuter resumptive pronoun is therefore unexpected and inappropriate. Furthermore, neither *$-sin$-* nor

-sosin- belongs to the forms that furnish infixed pronouns in the Insular Celtic languages (see Schrijver 1996: 21–22, 53–63).[10] It must be acknowledged, though, that Gaulish may have gone its own way in this respect. Still, the alternative analysis of **tio-in-ŭōru/e* as a compound verb with two preverbs is easier and more straightforward.

5.2   Another form analysed by Lambert as having lost medial *s* is *tecuandoedo* (L-35.1). He compares the final portion with W *anhedd*, Br. *annez* 'habitation, construction' < **ando-sedom* and translates the whole phrase as 'beautiful habitation/furniture'. However, it is unclear if and how *tecuandoedo* could be segmented into smaller units; quite different word divisions and interpretations have been suggested (see DLG 48 and RIG II.2 124). Lambert's translation does not make satisfying sense in the overall context of the inscription. But even if his basic idea were correct, there is an alternative explanation available. The second part of the compound **andoedom* could be identified with the element PC **φedom* 'space, place' < PIE **pedom*, found in other Gaul. compounds like the placename *Taruoedum* 'bull-place', **cantedon* (attested: *candetum*) '100 feet (long)', and in OIr. *ed* 'space, distance, interval'.

5.3   For another word in the same inscription (L-35.1), *trianis*, the loss of intervocalic **s* has been proposed. In this case, meaning and etymology are clear. Because of the preceding quantifier *tiðres* '3 (fem.)' it is fundamentally certain that *trianis* means 'third part', with obvious cognates in OIr. *trian*, MW *traean* 'id.' (no separate entry in DLG, but mentioned on p. 302 s.v. *tri-*, *treis*, *tidres*). As proto-forms for the Insular-Celtic words, **trisano-* and **triĭano-* figure alternately in the etymological literature, always without morphological justification for the choice. Both alternatives may be reconstructed as derivatives with the thematised zero-grade variant of the possessive Hoffman-suffix **-Hon-*. The basis for the one variant must be the distributive numeral PIE **tris* 'thrice', while the other one contains the stem of the cardinal numeral PIE **tri-* 'three'. While putative **trisHnó-*

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10 Schrijver (1997: 57, 62; contrary to 22) sets up PC **sīm* as preform for the feminine acc. sg. infixed pronoun of Insular Celtic. This would develop into Gaul. **sin*, one of the forms postulated by Lambert, but still a singular pronoun would not fit the context.

yields the required result straightaway, a chain of internal morphological restructurings has to be assumed for the other variant to arrive at the attested form. Starting from ablauting *trí-Hon-* (or *tréịHon-*) /tri-Hn´-, this could lead to *triịHon-/triịHn-* > *trịịon-/trịịən-* by internal levelling. Subsequently, the weak allomorph provided the basis for the thematisation *trịịano-* → PC *trịịano-*. Although this entails a complex sequence of developments, the resultant form, which means approximately 'having three (parts)', is semantically superior to the alternative, the meaning of which would be something like 'having thrice'. As in the two previous cases, two alternative explanations are available for MG *trianis* as well; of these the *s*-less variant has a slightly better claim to semantic plausibility.

5.4   To sum up, the three examples so far for lenition of intervocalic *s* are either unclear or ambiguous. Yet there are three more words which can only be analysed sensibly when loss of *s* is assumed. One is *suiorebe* (L-6), which is universally accepted as continuing PC instr. pl. *sụesoribi* < PIE *sụesor-* 'sister' (DLG 286).

5.5   Another one is *siaxsiou* (L-93 6; DLG 273), by appearance the 1sg reduplicated future, crossed with a *sịo*-future, of the root PC *sag-* 'to search' < PIE *seh₂g/ĝ-* 'to follow a trail', structurally PC *sisāgsiịū* (cp. the OIr. future stem *siãs-*).

5.6   *Sioxti* (L-31) is more problematic, but it is generally agreed that it is a verbal form that goes back to a contamination of a reduplicated and a *t*-preterite of the structure *sesoCt-*, although the precise root is disputed (see DLG 275–276 and the discussion in KP 745–747).

These three words, finally, are solid examples of intervocalic *s*-loss in Gaulish. They have one thing in common: in the input forms, the first and the second syllables start with an *s*. The surface loss of the second *s* can therefore be described as an instance of dissimilation. It is reminiscent of a similar dissimilation that has to be postulated for the prehistory of Old Irish to account for the behaviour of reduplicated formations of roots beginning with *sn-* and *sl-*. In structural terms, after application of the usual rules of reduplication the *s* of the root syllable was lost, not by normal lenition, but by an extraordinary and early deletion of *s* that left behind no trace. This is the only reasonable way to explain the preterite stem

selag- of *sligid* 'to fell', not the expected †*sellag-* < **sesloig-* (GOI 132). The behaviour of reduplicated Irish verbal forms from roots of the structure **sVC-*, i.e. the change of underlying **se/isVC-* > surface OIr. *siäC-*, can be explained along similar lines. Although it is possible to operate with an intermediate stage **se/ihVC-* with normal lenition, there is nothing to preclude the intermediate stage **se/i.VC-* with hiatus caused by an early dissimilatory loss of the second *s*. The same is true for 'sister' in the British languages, which is the only word of the appropriate structure in that branch of Celtic. Ultimately, nothing militates against combining the two processes of *s*-loss in Gaulish and Insular Celtic in a single rule of early Celtic *s*-dissimilation in the onset of reduplicated or quasi-reduplicated syllables.

5.7   Three counterexamples against the rule can be found in the Gaulish corpus. These may be only apparent, however. The first is the demonstrative *sosio* (L-79, L-103), and the second the demonstrative *sosin* (G-153, L-13), which was mentioned earlier as an example of a word that did not partake in the loss of initial *s* in weakly stressed words. Perhaps the two, both manifestly compound formations, were formed so recently as not to partake in the dissimilatory loss of intervocalic *s*, either. Alternatively it may be speculated that they escaped reduction because of a different stress pattern, or that the medial *s* goes back to *tau Gallicum*, from a combination of neuter **sod* + another form derived from the demonstrative stem **so-*.

5.8   The alleged verb *sesit* (L-100 8) is an uncertain piece of evidence. Its analysis as a reduplicated verb is only one among many different proposals, and some scholars do not regard it as a single word at all (DLG 272, RIG II.2 279), but rather as two words *se* + *sit*, an interpretation supported by the space between them. *Se* could be the demonstrative pronoun 'this, that', which is also encountered on the inscriptions from Larzac (L-981a1, 2a8, 2b7) and Châteaubleau (L-93 10); *sit* would then be the verbal form. Alternatively it could be argued that medial *s* was only lost in the sequence **sV*$_{[+front]}$*sV*$_{[+back]}$, even though the rationale behind this restriction is not immediately obvious.

6   Appendix: Lepontic

It is convenient at this point to take a look at the treatment of *s* in Lepontic, a language closely related to Gaulish. Lepontic is attested from the sixth to the first centuries BC, which means that it did not survive the Early Gaulish period. The surviving corpus of Lepontic is very small and consists to a large extent of fragmentary material.

Initial *s* is retained, e.g. *sasamos* (VB·1)[11] < PIE **seh₂g/ĝ-* 'to follow a trail' (?), *slaniai* (TI·36.1) ← PIE **sl̥Hnó-* 'sound', *sekezos* (CO·57–60) < PIE **seĝʰ-* 'to vanquish, get control', *setupokios* (TI·23) < PIE **sentu-* 'path, way', *siteś* (CO·48) < PIE **sed-* 'to sit, seat', etc. There are no examples of loss of initial *s*.

All certain cases of simple medial *s* belong to a single group of words, i.e. those with the *o*-stem gen. sg. ending *-oiso* < **-osi̯o*, e.g. *plioiso* (CO·6, ·72), *]tioiso* (CO·11), *χosioiso* (NO·1), etc. In *esopnio* (VB·28, cp. Gaul. *Ex-omnus*) and *sasamos* (VB·1), cp. Gaul. *Saχsamus*), medial *s* represents **χs*; the first *s* of *χosioiso* (NO·1) probably stands for /tˢ/. Its value in *tisiui* (TI·36.1) and *krasanikna* (NO·18) is unclear. Other instances of intervocalic *s* appear in very short or fragmentary inscriptions not amenable to interpretation. No instance of lost medial *s* has been identified.

Final *s* is widely attested in the Lepontic corpus, representing diverse grammatical categories: *o*-stem nom. sg. *alkouinos* (TI·41), *iśos* (VA·6), *i*-stem nom. sg. *uvamokozis* (CO·48), *ā*-stem gen. sg. (?) *rikanas* (NO·8), *n*-stem nom. pl. (?) *]ones* (CO·71), *n*-stem dat. pl. *ariuonepos* (CO·48). It is remarkable that the ending of the acc. pl. is not represented by *s*, but by *ś*: *siteś* (CO·48). Examples of *s*-loss in final position are comparatively rare; both examples belong to Late Lepontic of the first c. BC: *o*-stem nom. sg. *aśkonetio* (VB·22), *esopnio* (VB·28).

In short, the small corpus of Lepontic displays no difference in behaviour from Gaulish in respect to the treatment of *s*.

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11 The sigla refer to the system used in *Lexicon Leponticum* (http://www.univie. ac.at/lexlep/).

7   Summary

We can now proceed to a summary. It has emerged that there is no unconditioned rule for the loss or lenition of *s* in Gaulish, but that *s* is lost in very specific environments, word-initially and word-internally. As regards word-final position, where *s* could be lost indiscriminately in the later phases of Gaulish, it is noteworthy that Gaulish took a separate path from Vulgar Latin, since the Vulgar Latin of the Western Roman Empire did not lose final *s* at all. Typologically, loss of final *s* is nothing remarkable. It occurred independently in many Indo-European languages. Word-initially, evidence was found for a rule of *s*-deletion in weakly-stressed words, comparable to a similar rule in Insular Celtic. This may be an indication that the rule operated at a very early date and did not affect forms that were created more recently. As regards word-internal *s*, it was deleted by dissimilation in the onset of second syllables when the first syllable also started with *s*. This formulation of the rule implies that reduplicated formations were particularly affected by this process.

These three distinct developments can be combined in a single grand theory of *s*-deletion that pays attention to similar or identical processes in Insular Celtic: Proto-Celtic or Common Celtic[12] had a single sibilant phoneme /s/ that possessed two allophones, a fully articulated one, [s], and one with some kind of laxer articulation for which I will use the symbol [σ]. The strong allophone was used initially in fully accented words and in front of consonant clusters. In other contexts, especially in intervocalic position, in the onset of weakly stressed or unstressed words, at the end of words and word-internally before *l*, *m*, *n* (and perhaps *r*)[13] the weakly articulated allophone was found. This allophone was "lenited" in a purely phonetic sense of the word. I do not speculate about its phonetic realisation. When further factors were added, in particular proclisis or dissimilatory contexts, the weak allophone was deleted. Again, this process is not "lenition" if one thinks of it in Insular Celtic categories. It is preferable to call it "*s*-deletion". Formally it can be represented thus:

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12 Note, however, that the situation in Celtiberian was ignored for the present study.

13 See McCone 1996: 45–48. Because of space restrictions it is not possible to elaborate on this point.

σ > Ø ("*s*-deletion")/

1. #_V ("proclitic *s*-deletion")
2. #s(u̯)V_(R)V ("dissimilatory *s*-deletion")
3. V_RV > VR:V (R = *l*, *m*, *n*; "loss with compensatory resonant gemination")
4. V_# ("final *s*-loss")

References

Banfi, Emanuele. 1996. 103: Gemeinromanische Tendenzen I. Phonetik. In Günter Holtus et al. (eds.), *Lexikon der romanistischen Linguistik (LRL). Band II, 1. Latein und Romanisch. Historisch-vergleichende Grammatik der romanischen Sprachen*, 163–199. Tübingen: Niemeyer.

De Bernardo Stempel, Patrizia. 2006. Language and the historiography of Celtic-speaking peoples. In Sabine Rieckhoff (ed.), *Celtes et Gaulois, l'archéologie face à l'histoire. I. Celtes et Gaulois dans l'histoire, l'historiographie et l'idéologie moderne*, 33–56. Bibracte: Centre archéologique européen.

DLG = Delamarre, Xavier. 2003. *Dictionnaire de la langue gauloise*. 2e édition. Paris: Editions Errance.

Evans, D. Ellis. 1967. *Gaulish personal names. A study of some Continental Celtic formations*. Oxford: Clarendon Press.

Фалилеев, Александр И. 2006. Галльск. **s*, и.-е. **p* и некоторые аспекты интерпретации континентальных кельтских данных. *Индоевропейское языкознание и классическая филология* 10, 306–313.

GOI = Thurneysen, Rudolf. 1946. *A grammar of Old Irish*. Dublin: Dublin Institute for Advanced Studies.

Katz, Joshua T. 1998. Archaische keltische Personalpronomina aus indogermanischer Sicht. In Wolfgang Meid (ed.), *Sprache und Kultur der Indogermanen. Akten der X. Fachtagung der Indogermanischen Gesellschaft Innsbruck, 22.–28. September 1996* (IBS 93), 265–291. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.

KP = Schumacher, Stefan. 2004. *Die keltischen Primärverben. Ein vergleichendes, etymologisches und morphologisches Lexikon* (IBS 110). Innsbruck: Institut für Sprachen und Literaturen der Universität Innsbruck.

Lambert, Pierre-Yves. 1997. Gaulois tardif et latin vulgaire. *Zeitschrift für celtische Philologie* 49/50, 396–413.

Lambert, Pierre-Yves. 1998–2000. La tuile gauloise de Châteaubleau (Seine-et-Marne). *Études Celtiques* 34, 57–115.

Lambert, Pierre-Yves. 2003. *La langue gauloise. Description linguistique, commentaire d'inscriptions choisies.* Édition revue et augmentée. Paris: Éditions Errance.

Lambert, Pierre-Yves. 2008. *R.I.G.* II, 2: Notes de compléments. *Études Celtiques* 36, 103–113.

Marichal, Robert. 1988. *Les graffites de La Graufesenque.* Paris: Centre National de la Recherche Scientifique.

McCone, Kim. 1996. *Towards a relative chronology of ancient and medieval Celtic sound change.* Maynooth: Department of Old and Middle Irish.

Pokorny, Julius. 1948–9. Zur keltischen Namenkunde und Etymologie. *Vox Romanica* 10, 220–267.

RGA = Heinrich Beck et al. (eds.). 1976. *Reallexikon der Germanischen Altertumskunde. 2., völlig neu bearbeitete und stark erweiterte Auflage. Band 2. Bake–Billigkeit.* Berlin: de Gruyter.

RIG II.2 = Lambert, Pierre-Yves. 2002. *Recueil des inscriptions gauloises (R.I.G.). Volume II, fas. 2. Textes gallo-latins sur* instrumentum. Paris: Centre National de la Recherche Scientifique.

Schrijver, Peter. 1995a. Welsh *heledd, hêl,* Cornish **heyl,* "Latin" *Helinium,* Dutch *Hel-, Zeelt. North-Western European Language Evolution* 26, 31–42.

Schrijver, Peter. 1995b. *Studies in British Celtic historical phonology.* Amsterdam & Atlanta (GA): Rodopi.

Schrijver, Peter. 1997. *Studies in the history of Celtic pronouns and particles.* Maynooth: Dept. of Old Irish.

Schrijver, Peter. 1998–2000. The Châteaubleau Tile as a link between Latin and French and between Gaulish and Brittonic. *Études Celtiques* 34, 135–142.

Schrijver, Peter. 2004. Der Tod des Festlandkeltischen und die Geburt des Französischen, Niederländischen und Hochdeutschen. In Peter Schrijver & Peter-Arnold Mumm (eds.), *Sprachtod und Sprachgeburt,* 1–20. Bremen: Hempen.

Sims-Williams, Patrick. 2003. *The Celtic inscriptions of Britain: Phonology and chronology, c. 400–1200* (Publications of the Philological Society 37). Oxford: Blackwell.

Sims-Williams, Patrick. 2006. *Ancient Celtic place-names in Europe and Asia Minor* (Publications of the Philological Society 39). Oxford: Blackwell.

Sitzmann, Alexander, Grünzweig, Friedrich E. 2008. *Die altgermanischen Ethnonyme: Ein Handbuch zu ihrer Etymologie.* Wien: Fassbaender.

Stifter, David. 2005. Hallstatt – In eisenzeitlicher Tradition? In Raimund Karl & Jutta Leskovar (eds.), *Interpretierte Eisenzeiten. Fallstudien, Methoden, Theorie. Tagungsbeiträge der 1. Linzer Gespräche zur interpretativen Eisenzeitarchäologie*, 229–240. Linz: Oberösterreichisches Landesmuseum (http://www.schlossmuseum.at/eisenzeiten/eisenzeiten%20I%20pdfs/Stifter.pdf)

Watkins, Calvert. 1955. The phonemics of Gaulish – the dialect of Narbonensis. *Language* 31(1), 9–19.

Watkins, Calvert. 1999. Two Celtic notes. In Peter Anreiter & Erzsébet Jerem (eds.), *Indogermanica et Celtica. Festschrift für Wolfgang Meid*, 539–544. Budapest: Archaeolingua.

Wedenig, Reinhold & Patrizia de Bernardo Stempel. 2007. Keltisches in norischen Personennamen. In Helmut Birkhan (ed.), *Kelten-Einfälle an der Donau. Akten des 4. Symposiums deutschsprachiger Keltologinnen und Keltologen*, 619–630. Wien: Verlag der österreichischen Akademie der Wissenschaften.

Whatmough, Joshua. 1931. The Osi of Tacitus – Germanic or Illyrian? *Harvard Studies in Classical Philology* 42, 139–155.