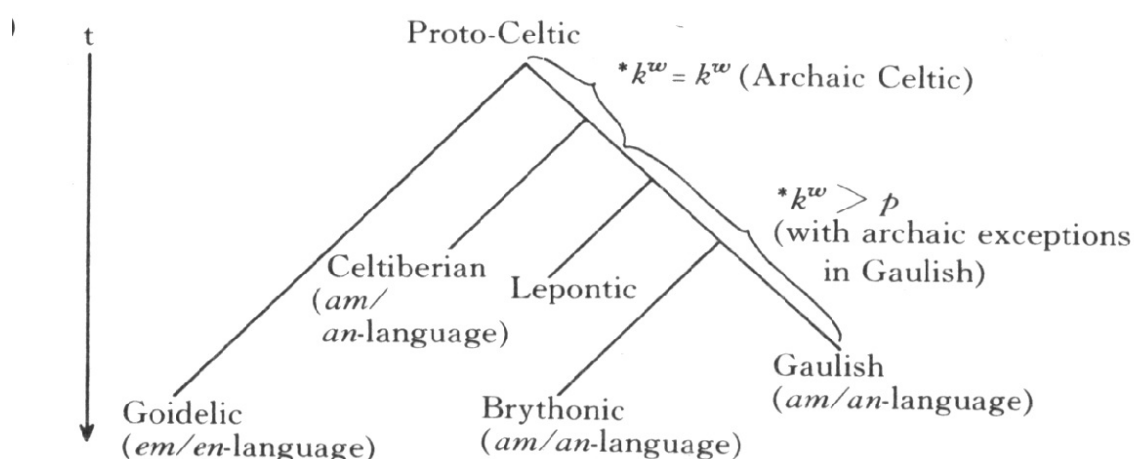

CHAPTER THREE

The Voiceless Labiovelar, Syllabic Nasals, Lenition and the
Celtic Family Tree

1.1. THE VOICELESS LABIOVELAR. Schmidt has repeatedly (e.g. 1977, 1980, 1986 and 1988 and 1988b) argued for the following basic scheme of incipient differentiation between the main attested sub-Celtic groupings (here given according to 1988, 8).

1.2 The first of the two criteria employed is, of course, the famous change $k^w > p$ characteristic of both British and Gaulish (as well as 'Lepontic'), e.g. Gaul. *penno-*, MW *penn* vs. OIr. *cenn* 'head' < $*k^w enno-$ or Lep. *-pe* vs. Celtib. **-kue**, OIr. *-ch* 'and' < $*k^w e$ (Lat. *-que* etc.).



Viewed as a shared innovation, this has been taken by Schmidt and others as a powerful criterion for recognising a Gallo-British sub-family from which k^w -retentive Celtiberian and (Ogam) Irish are then automatically excluded.

The diagnostic value of this feature is, however, undermined by a number of considerations. Firstly, compromise simplification of the labiovelar's double articulation [velar stop + labial continuant] to produce a plain labial stop is too well motivated phonetically for its separate occurrence in British and Gaulish to be ruled out. Not only is Proto-Celtic $g^w > b$ an obvious instance of this phenomenon but, as Schmidt himself concedes (1988, 5), within Indo-European it is independently attested in Osco-Umbrian and (with some contextual restrictions) Greek, not to mention Rumanian within the Romance family descended from *qu*-retentive Latin. Indeed, as a result of the gap in the system left by loss of *p* in late Proto-Celtic (unlike either Osco-Umbrian or Greek)

systematic pressures favouring $k^w > p$ would have been similar to those previously responsible for Proto-Celtic $g^w > b$. Given this powerful motivation, it is quite easy to envisage $k^w > p$ occurring independently in at least two branches of Celtic.

That said, a further possibility also presents itself. Although commonly dubbed Celtic, the 'La Tène' migrations into North Italy and along the Danube as far as Asia Minor from the sixth to the third centuries B.C. are more correctly considered Gaulish on the evidence both of classical authors and of such linguistic material as survives. There is no difficulty in assuming that Celtic migrations westwards and northwards to Spain, France, Belgium and Britain had preceded this phase, which entailed the spread of a Gaulish variety of Celtic certainly characterised by p for k^w from a centre north of the Alps. Positing a secondary 'Gallicisation' of France and Belgium at about this time would explain the arguable survival of k^w -Celtic pockets there in the historic period (Schmidt, 1977, 17). As for Celtic Britain, cross-channel contacts would suffice to account for the spread of the structurally motivated p -isogloss thither from Northern Gaul (Mac Eoin, 1986, 167-71). Since, however, Caesar's *De Bello Gallico* V 12 provides good evidence for quite recent Belgic incursions into and settlement of the south coast of Britain, it is also conceivable that these were responsible in the second or third century B.C. both for the introduction of p for k^w into Southern Britain and for a more or less simultaneous 'knock on' migration from a still k^w -retentive area further north to Ireland. Subsequently the p -isogloss will have spread throughout British Celtic, being prevented from going further by the Irish Sea rather as the barrier of the Pyrenees seems to have impeded its penetration from Gaulish into Celtiberian.

Whatever the precise details of its emergence, $k^w > p$ is not at all reliable as a criterion for the genetic classification of Celtic languages, and its occurrence in both Gaulish and British falls well short of necessarily implying a Gallo-British subfamily from which Irish must then have already separated at some earlier stage.

1.3 Furthermore, little weight attaches to any of the four features adduced by Lejeune in support of the since generally accepted view that the so-called 'Lepontic' of inscriptions from around the Lago Maggiore represents a separate 'para-Gaulish' branch of Celtic and as such is to be distinguished from the Cisalpine Gaulish proper of the Todi, Briona and Vercelli inscriptions. The claim (*Lej.* 460-6) that the Lepontic reflex of η was *en* not *an* is based upon the extremely doubtful (Schmidt, 1977, 18) interpretation of a single word *SITES* of the Prestino inscription as acc. pl. with $-\bar{e}s < *-\eta s$. As for the examples *PIUONEI* and *ASILONEI* (*Lej.* 437-8) of a Lep. n -stem dat. sg. $-ei$ (old dat.) vs. Trans. Gaul. i -stem $-\bar{e}$ ($<$ loc. $*-ei$) and cons. stem $-i$ (old loc.), these need be no more than sandhi variants in origin since $ei > \bar{e}$ occurred only before consonants (cf. I.3.6). As regards the morphological contrast between originally

dative and locative forms, the survival of a separate locative form in Celtiberian makes it quite possible on present evidence that dative-locative syncretism first occurred within Gaulish, the Cisalpine and Transalpine branches tending to generalise old datives and locatives respectively in the consonant stems.

The significance of Lep. *-m* vs. Cis. Gaul. *-n* (*Lej.* 432-5) has been completely undermined by the evidence of the Larzac inscription for fluctuation between *-m* and *-n* still at quite a late date in Transalpine Gaulish, and the suspiciously close proximity of Vercelli to the 'Lepontic' area is anyway sufficient to call the dichotomy into question. Since, moreover, the inscriptions around the Lakes are almost certainly earlier for the most part than the other three, the by any standards trivial *-n* for *-m* could be simply a matter of chronology as, for that matter, could the survival of an old *-ei* dative in the *n*-stems.

That leaves Lep. TETU /dedū/ 'set up' < *dedō < *d^hed^hoh₁e vs. Trans. Gaul. δεδε with *-e* taken over from the majority of perfects without final laryngeal (*Lej.* 446-52). Given original 3sg. *-ū* in some versus *-e* in most old perfects, the new 'weak' *-it-* preterite was free to adopt either or both. Consequently it would be rash to read too much into ('Lepontic') Vergiate KARITE, KALITE but (Cis. Gaul.) Todī KARNITU agreeing with Transalpine Gaulish καρνιτου. In addition to *p* < *k^w*, 'Lepontic' shares with Cisalpine Gaulish an assimilation of *nd* > *nn* not even found in Transalpine Gaulish and has an *-it-* preterite as well as an *-ikno-* patronymic otherwise definitely attested only in Gaulish among known Celtic languages.

Of late the *o*-stem gen. sg. has become an issue, as can be seen from a recent discussion by Eska (1995), who elsewhere makes the following comment: 'It is especially noteworthy now that Celtic can be included among those Indo-European daughter languages which continue *-*osyo*. Lepontic (a peripheral and archaic dialect of Gaulish by my reckoning), like Venetic, attests several examples of *-oiso*. Most analysts have treated this as a metathesized variant, but I prefer to treat it as the product of a crossing with Indo-European pronominal gen. pl. *-*oysōm*' (Eska, 1995b, 14; cf. Celtib. **soisum**, II.5.3). The fact that 'Lepontic' still retains *-oiso* alongside subsequently generalised *-ī* is no more detrimental to its essential status as early Gaulish than a similar dichotomy between older *-osio* and subsequently dominant *-ī* in both Latin (in the wake of the Satricum inscription; de Simone, 1980b) and Faliscan (Devine, 1970, 23-5).

1.4 As pointed out by Cowgill (1980, 67-8), the Gaulish and British change *k^w* > *p* produced a stop system in which *g^w* (< *g^{wh}*) was now isolated as in stage V below, the result being structural pressure towards symmetry by emptying its slot. If, as seems probable, *uediiumi* on the Chamalières inscription means 'I pray' and so continues **g^wed-yū(+mi)* < **g^{wh}ed^h-yō* (McCone, 1991b, 102-3 and 119-20), we may provisionally conclude that Gaulish had reached

stage VI by simplifying $g^v > w$. As argued in II.1.2, British may well have behaved similarly, although the initial reflexes there are compatible with either retained g^w - or $w < g^w$ - and the internal ones may be easier to square with $-g^w > -b$ - than $-g^w > -w$ -. Even if $g^w > w$ was general in both, the structural pressures after stage V were such that independent developments seem quite possible.

V	p	t	k	[-]	VI	p	t	k
	b	d	g	g^w		b	d	g

As mentioned earlier, the imbalance of the three voiceless versus four voiced articulations in the late Proto-Celtic stage IV (II.1.5) was redressed quite late in the prehistory of Irish. The first stage was apparently the limited acquisition of p in some pre-affection early Latin loanwords like *cepp* 'log' < *cippus*, *prid^rchid* 'preaches' < *pr(a)edicat* (McManus, 1983, 36-8) to produce 4/4 (as in stage III in II.1.5) and the second a reduction to 3/3 by post-lowering simplification of k^v , g^v (McManus, 1983, 47-8) resulting in their merger with k , g (IV.3.4). Meanwhile p became more and more frequent through the continuing introduction of Latin loanwords like *póc* 'kiss' < (*osculum*) *pacis* (VI.2.4-7) and through post-syncope provection of $-b^h-$ > $-p-$ in some native words, e.g. *-impai* 'turns' < **-imb^hhoy* < **-imbi-how*' < **-æmbi-sowet* (V.1.6). In this way something like the system in VI above was arrived at by a different route, but by then Irish lenition and palatalisation had quadrupled the number of phonemes at each of the six points (e.g. t , t' , θ , θ' for original t ; I.6.1).

2.1. SYLLABIC NASALS. The treatment of the Proto-Indo-European syllabic liquids and nasals in Proto-Celtic has been described in the previous chapter (II.3.2-3 and 4.3-4). However, it seems appropriate to discuss the basic reflexes of η and η in greater detail here because of the major role accorded to them by Schmidt (see 1.1 above) in his theory of the earliest subdivisions of Celtic.

It is generally agreed, albeit simplistically in view of quite a few deviant reflexes like the Gaulish month-name *Elembiu* (< **el^hnb^h-*, cf. Gk. *ἔλαφος* 'deer' and *Ἐλαφηβολιών*) etc. (II.3.3), that the syllabic nasals basically became *an* and *am* in all of the non-Goedelic Celtic languages. In addition to the **brigant-* forms in II.3.2, typical examples are Gaul. *ande-* (Cisalpine *ane-*, *ano-*), MW *an(n)-* 'in' < **h₁ṇd^hi* (Skt. *ad^hi*); Gaul. *an-*, MW *an-* 'un-' < **ṇ-*; Gaul. *dekant-* 'tithe' < **de^hkṇt-*; Celtib. **kantom**, MW *cant* 'hundred' < **kṇtom*; OB *ankou*, C *ancow*, MW *angheu* 'death' < pl. **ṇk-ow-es* (Lat. *nex*, *nec-is*, Gk. *νέκυς* 'corpse', Skt. *naśati* 'perishes' < **ne^hk-*).

As indicated in II.3.3, most of the reflexes in Irish have traditionally been

taken to point to a development $\eta, \eta > en, em$ (VKGI 45-7 and GOI 129-30), the corollary being that the precursor of Irish split off from the rest of Celtic before η, η became *an, am* there. Thus Schmidt's scheme above envisages Goedelic branching off when η and η were still unaltered in Proto-Celtic, in most environments at least, and places the general development of *an, am* at a subsequent stage shared by the rest of the family. The next branch to separate out was Celtiberian prior to the change $k^w > p$ shared by Gaulish (including 'Lepontic') and British. Finally, Gallo-British split into Gaulish and British. Obviously this scenario completely precludes the possibility of Insular Celtic as a genetic phase shared by British and Irish after Proto-Celtic had begun to break up. The inadequacy of $k^w > p$ as evidence for Gallo-British and against Insular Celtic having already been pointed out, the obvious next step is closer scrutiny of the reflexes of η, η in this context.

2.2 To begin with, as a cursory glance at GOI 129-30 shows, it is a gross oversimplification of the facts to contrast $\eta, \eta > en, em$ in Goedelic with $\eta, \eta > an, am$ in the rest of Celtic. This point was duly made by Oswald Szemerényi in a review of Schmidt's (1977) earliest presentation of his model: 'Our author puts great emphasis on the syllabic nasals developing a vocalic element *a* and *e* respectively (23). And yet he knows that these differing results do not represent absolute values. We find in Gaulish not only *am/an* but also *em/en*, and Goedelic has of course also *am/an*, cp. the consonantal acc. pl. *-ās* from *-ans*, IE *-ns*. And if Cowgill is right in postulating *am/an* for Goedelic also, which developed to *em/en* before obstruents only (except for final **-ns*), then it seems to follow that *am/an* was the general Celtic development which was further, that is later, changed to *em/en* in all branches under certain, at present ill-defined, circumstances' (ZCP 36, 1977, 296).

In the wake of Szemerényi's comments Schmidt conceded 'that before *s* the pan-Celtic reflex of the nasal sonants appears to have been *an*, as Goedelic also makes clear' (1986, 166). De Bernardo Stempel (1987, 22-40 and 50-53) then took the obvious further step of acknowledging Proto-Celtic *an, am < η, η* in other positions where the Old Irish reflexes were *an, am* rather than actual or inferred *en, em* but denied the possibility of Goedelic *an/am* reflexes before a stop. Her conclusions formed the basis for Schmidt's revised position that ' η before *s* had already developed to *an* in the Proto-Celtic period (cf. De Bernardo Stempel l.c. 165)' and 'the passage from **ηs* to **ans* is subsumed under the Proto-Celtic sound law of the conditioned transformation of the nasal and liquid sonants to *am, an, al, ar* before *s*, laryngeal + vowel and sonants (apart from *m*)' (1988, 8). In other words, before the relatively early loss of post-syllabic laryngeals in Proto-Celtic (II.4.1-4) η and η became *an* and *am* when followed by HV, *s, r, l, n, y* (including < Hy) and *w* but remained unchanged elsewhere right down to the branching off of Goedelic. After this

appreciable interval the change to *an* and *am* was replicated here too in the central stock, whereas the same environments yielded *en* and *em* in Goedelic.

This hypothesis is both uneconomical and intrinsically implausible, as de Bernardo Stempel is forced to admit: 'The vocalisation of the nasals before stops and in final position > Ir. *en*, *em* vs. Brit., Cont. *an*, *am* was the only one... to take place in the period after Proto-Celtic. There is hardly any parallel for this in Indogermania' (1987, 51). Elsewhere vocalisation served as a straightforward strategy for total eradication of the syllabic allophones $r̥$, $l̥$, $ŋ$ or $m̥$, and there is no obvious parallel for the two widely separated tiers posited here for the disappearance of $ŋ$ and $m̥$ in Celtic. However unusual, the environmentally conditioned split in the vocalisation of $r̥$, $l̥$ to *ar*, *al* or *ri*, *li* offers no support, since the upshot was the complete and presumably more or less simultaneous loss of syllabic $r̥$, $l̥$ in Proto-Celtic. In short, it is hard to see why, unlike $r̥$ and $l̥$, $ŋ$ and $m̥$ should have been resolved into vowel plus *n* and *m* before certain sounds at an early stage while continuing to be tolerated as syllabics for a disturbingly long time before others.

2.3 These are not the only difficulties and contradictions to beset Schmidt's and de Bernardo Stempel's construct, which places considerable emphasis upon an alleged parallelism between $ŋ$, $m̥$ > *am*, *an* and $r̥$, $l̥$ > *ar*, *al* before (H)V, *s*, *r*, *l*, *n*, *y* or *w* in Proto-Celtic. This is hardly a compelling *a priori* assumption in view of their divergent behaviour in remaining contexts, where the latter typically became *ri*, *li* but the former certainly did not yield *ni*, *mi* as a rule. Consistent application of this principle in any case implies Proto-Celtic $-ŋ$, $-m̥$ > *-an*, *-am* parallel to $-r̥$ (and presumably $-l̥$) > *-ar* (*-al*). However, this development cannot be conceded because de Bernardo Stempel's (1987, 34) case depends upon rejection of a change *am*, *an* > *em*, *en* in Goedelic that would be fatally undermined by the need for numerous derivations like OIr. *deich* 'ten' < **dek-em* < **dek-am* < **dek-m̥* or acc. sg. *athair* 'father' < **ater-em* < **ater-am* < **ph₂ter-m̥* and so on for all other m./f. consonant stems in Old Irish. If there was no parallelism here, it is hard to see why it should be insisted upon elsewhere, especially when a divergent treatment of $r̥$ and $ŋ$ before *m* is proved by OIr. *cruim*, MW *pryf* 'worm' < **k^wrm-is* (Skt. *kṛmis*, Lith. *kirmis*) vs. OIr. gen. sg. *anmae* 'of a name' < **an-mēs* < **ŋm-en-s*. Whether the PIE preform of the latter is reconstructed with one or two laryngeals (see II.4.4), **ŋm-* unquestionably resulted in Proto-Celtic and, in the absence of any other good evidence for a different treatment of this sequence, de Bernardo Stempel's rather desperate objection that 'this reconstruction would presuppose the passage of **ŋ* > *an* before *m* just as before the other sonants, which is suspicious on account of **r̥*, *l̥* > *ri*, *li* before *m*' (1987, 70) is a patently circular argument.

It will be argued below that the OIr. reflex of Proto-Celtic $ŋn$ was *enn*

rather than *ann*, that the rule about *ns* must be refined to take account of non-final $\bar{e}s < ens < ans$ in Old Irish and that some indubitable cases of *an*, *am* < η , m before a voiced stop in Old Irish conclusively disprove the theory devised by de Bernardo Stempel and Schmidt.

2.4 Before proceeding with the search for an alternative capable of covering the facts satisfactorily, it may be helpful to tabulate the relatively complex Old Irish reflexes of PIE η , m under six main headings geared to Proto-Celtic environments.

(a) $*-\eta s > *-ans > *-\bar{a}s > -a$ in cons. stem m./f. acc. pl.: e.g., *rīga* 'kings' < $*rīgās$ (Gaul. *Bitu-rigas* etc. in Caesar) < $*rīgans < *rēgēs$.

(b) η , $m > an$, *am* before (H)V, *y*, *w*, *m* (*r*, *l*?): e.g., gen. pl. *ban* 'of women' < $*ban-om < *g^w\eta h_2-om$; *-gainethar* 'is born' < $*gan-ye-tor < *g\eta-ye-tor < *g\eta h_1-ye-tor$ (Skt. *jāyate*); *ainb* 'ignorant' < $*an-wiss < *η-wid-s$.

(c) η , $m > an$, *am* sometimes before a voiced labial or dental stop: e.g., *land* 'open space', *ith-land* 'threshing floor' (OW *it-lann*, MW *llan*, *yd-lan*, C *lan*, B *lann* 'heath') < $*landā < *l\eta d^h-$ (Goth. *land* etc. < $*lond^h om$, ON *lundr* < $*l\eta d^h os$; Goto, 1985); *and* 'therein' < $*andom < *h_1\eta ndom$ (Hitt. *andan*, Gk. $\acute{\epsilon}\nu\delta\omicron\nu$).

(d) $\eta > en$ before another *n*: e.g., OIr. *benn* 'peak', MW *bann*, MB *ban*, Gaul. *banno-* < PC $*banno-$ < $*bandno-$ < $*b\eta d-no-$; MidIr. *ro:geinn* 'finds a place', W 1sg. *gannaf* < PC $*ganne/o-$ < $*gannd-et(i) < *g^h\eta nd-$ (Gk. $\chi\alpha\nu\delta\acute{\alpha}\nu\epsilon\iota$, Lat. *prae-hendit*). It is to be noted that a sequence of two nasals plus a voiced stop would seem to have been simplified by loss of the stop as early as Proto-Celtic.

(e) η , $m > in$, *im* before a voiced stop as a rule: e.g., OIr. *imm*, MW *am*, Gaul. *ambi-*, Celtib. **ambi-** < $*h_2m^b i$ (Gk. $\acute{\alpha}\mu\phi\acute{\iota}$, Lat. *amb-*, Umbr. *amb-*, Osc. *am-*, Skt. *ab^h i*, OHG *umbi*, OE *ymb(e)*); OIr. *imb* 'butter', gen. sg. *imbe* (B *amann*) < $*h_3\eta g^w-$ (Lat. *unguen* 'ointment', cf. Skt. *añj-as-* < $*h_3eng^w-$); *ind-* 'in(to)' (Gaul. *ande-*, MW *an(n)*) < $*h_1\eta d^h i$ (OInd. *ad^h i*); OIr. *ingen* 'nail', OW *eguin* (later *ewin*) < $*h_3\eta g^wh-$ (Lat. *unguis*; ON *nagl*, Gk. $\acute{\omicron}\nu\nu\chi-$, Lith. *nāgas* < $*h_3nog^wh-$); OIr. *ingnad* 'unusual' < $*η-g\eta h_3-to-$; OIr. *tengae* 'tongue' < $*tingwāt-$ (MW *tauawt*) < $*d/t\eta g^h wā$ (Goth. *tuggo*, OLat. *dingua*, Lat. *lingua* etc.); OIr. *ing* 'strait', MW *eh-ang* 'wide' < $(*exs-)\eta gu-$ with generalised zero grade (as in PIE gen sg. $*h_2\eta g^h-éw-s$, or perhaps < full-grade $*angu-$ as in PIE nom. sg. $*h_2éng^h-u-s$; cf. unambiguously or arguably full-grade cognates like OInd. *amhu-*, Goth. *aggwus*, ON. *qngr* or Gk. $\acute{\alpha}\gamma\chi-(t)$, Lat.

angi-; Celtib. **ankios, esankios?**).

(f) $\eta, \eta > \acute{e}$ before a voiceless stop or fricative (see below on *s*), e.g. *écht* 'slaughter' < **ænx-tu-* < * ηk -*tu-*; *éc* 'death' < **ænk-u-* (OB *ankou* etc.; Celtib. **ankios, esankios?**) < * ηk -*u-*; *dét* 'tooth' < **dænt* (MW *dant*) < * $h_1 d \eta t$ - (Lat. *dent-*, Goth. *tunþ-*, Skt. *dant-/dat-*; Gk. *ὄδοντ* < * $h_1 d \eta t$ -); OIr. *é-tromm* 'light' < **æn-trumbos* < * η -; *cét* 'hundred' < **kæntom* (MW *cant*, Celtib. **kantom**) < **k̑ntom* (OInd. *śatam*, Gk. *ἑκατόν*, Lat. *centum*, Lith. *sim̃tas*, Goth./OE *hund*). It is to be noted that the nasal voiced a stop (but not a fricative) before its disappearance, a fact obscured by Old Irish orthographic conventions but obvious from Modern Irish *éag* 'death', *déad* 'tooth', *éadrom* 'light', *céad* 'hundred' and so on.

Since the Old Irish reflexes in (a)-(c) agree with those in British and, by implication at least, Continental Celtic, Proto-Celtic $\eta, \eta > an, am$ is strongly indicated in the relevant contexts. On the other hand, the Goedelic *en, em* or the like apparently responsible for the Old Irish outcome in (d)-(f) differs from the *an, am* securely attested in British and Continental Celtic. Since a model like Schmidt's and de Bernardo Stempel's seems bound to ascribe occasional Gaulish deviations from this such as *Elembiu*, *Brigindoni* or *Iouincillus* to secondary fronting of *am, an* to something like *em, en* or *im, in* locally at least in Gaulish, there is absolutely no *a priori* reason why a similar fronting should not be posited for Goedelic in environments (d)-(f). If it is, $\eta, \eta > an, am$ becomes a perfectly straightforward general Proto-Celtic change and is no longer prey to the array of serious problems documented above. So great are the advantages of this postulate that it can be effectively countered by nothing less than insuperable objections to tracing Goedelic *en, em* back to PIE η, η via Proto-Celtic *an, am*. It would, of course, be rendered quite irresistible by evidence that PIE or pre-Celtic *an, am* became *en, em* or the like in Goedelic in environments (d)-(f), since the same change would be bound to have affected Proto-Celtic *an, am* < PIE η, η too.

2.5 Hamp's claim that 'before voiceless stops original syllabic nasals are indistinguishable from **a* plus nasal' (1965, 225, n.2) is disputed by de Bernardo Stempel (1987, 35) on the grounds 'that the Irish merger of *an + tenuis/s* and *en + tenuis/s* as *é + media/s* is relatively late... and only affected the position under the accent as well as the unaccented position in internal post-apocope syllables'. Thus (i) **gansis* > **gensis* > OIr. *géis* 'swan' (stressed *an*), (ii) acc. pl. **karant-ns* > **karant-ans* > **karant-ās* > **karant-a* > **karenta* > OIr. *cairtea* 'friends' (internal unstressed *an*) but (iii) acc. sg. **karant-m̑* > **karant-em* > **karant'* > OIr. *carait* 'friend' (1987, 94: note the erroneous assumption that /nt/ had not yet become /d/ by the time of the

general apocope; IV.1.3). Since she herself is obliged to posit *an* > *en* before a voiceless stop or *s* in all but post-apocope unstressed final syllables, it is hard to see the point of de Bernardo Stempel's further objection 'that there is no regular sound change *a* > *e* otherwise in Irish either' (1987, 34). Nor does it matter whether Goedelic *an* > *en* in (i) and (ii) was 'relatively late' or not, since *an* < *ŋ* by Proto-Celtic would be affected either way.

The only possible reason for denying *an* > *en* in (iii) is the non-palatalisation of the *r* of *carait* versus the palatalisation seen in *cairtea* and so on. However, this provides no explanation for numerous comparable cases not involving a nasal such as OIr. 3sg. *-tabair* 'gives' < **-taver'* < **-to-beret* vs. 3pl. *-taibret* < **-tav ĭrod* < **-to-beront*. These can only be satisfactorily accounted for by the rule (IV.3.1-2) that consonants between a back vowel (*a/o*) and *e* were not palatalised in Primitive Irish unless the *e* had been weakened to a palatal schwa (here designated *ĭ*) prior to syncope. That being so, a form like *carait* would be the regular outcome of **karent-en* < **karant-ŋ* in accordance with Hamp's view. Indeed, the hypothesis that *an* became *en* before a voiceless stop or *s* in all positions in Primitive Irish is indispensable in the light of forms like nom. sg. *car(a)e* 'friend' < **karēs* < **karen-s* < **karan-s* < Proto-Celtic **karant-s*. Since her rule predicts OIr. **cara* here, de Bernardo Stempel is forced to declare that the actually attested 'nom. sg. *car(a)e* is presumably a new formation' (1987, 94) without supplying any model or motive for the alleged analogy. As nom. sg. *teng(a)e* 'tongue' is almost certainly an analogical replacement of **tenga* < **ting^vāt-s* and *nt*-stems like *car(a)e* are the obvious model, their *-(a)e* can hardly be analogical as well.

If, then, examples like OIr. *géis* 'swan', *car(a)e* 'friend' < **gans-*, **karant-s* respectively prove the fronting of old *a* to something like *e* before nasal plus voiceless stop or fricative in Goedelic, it follows ineluctably that any *an* or *am* already brought into being by a Proto-Celtic change of *ŋ, ǵ* > *an, am* would have been affected by the same process. Since de Bernardo Stempel's (1987, 34) *-cét* 'was sung' < **kŋtó-* is highly questionable on the grounds that an *a*-root of this type was not liable to ablaut as a rule, OIr. *-cét* 'was sung' or *cétal* 'song' < **kant(l)o-* (OIr. *canaid*, Lat. *canit, cantum* 'sing(s)') makes it quite illogical to insist upon OIr. *cét* 'hundred' < **kentom* < PC **kŋtom* (MW *cant*, Lat. *centum* etc.) rather than < PC **kantom* < PIE **kŋtom*. Clearly, then, *an, am* > *en, em* or the like must be recognised as a general Primitive Irish development before a voiceless stop, *x* or *s*, although it may be that before a stop (as opposed to *x* and *s*) loss of the nasal was accompanied by compensatory lengthening of *e* to *é* in stressed syllables only. That being so, the Old Irish reflexes in (f) above are perfectly compatible with Proto-Celtic *ŋ, ǵ* > *an, am*. This in turn creates a presumption that OIr. *enn* in (d) arose from *ann* in a similar manner, even in the absence of a definite example involving

old *a* in this small group. That leaves the reflexes before voiced stops in (c) and (e) above.

2.6 Here attention must obviously focus firstly upon the question of whether at least one or two of the frontings in (e) likewise reflect an indisputable older *a* and secondly upon the dual treatment of η , m in this environment evinced by the contrast between (e) with *in/m* and (c) with an *an/m* completely at odds with the theses of Schmidt and de Bernardo Stempel, who does not even mention, let alone discuss, the particularly awkward OIr. *land* '(open) space' < $*l\eta d\bar{a}$ adverted to by Hamp (1965, 225, n.2). OIr. *camb* 'crooked' (MW, C *cam*, B *kamm*), *cim(b)* 'tribute, silver' (B *kemm*) and *cimbid* 'captive, prisoner' can all be derived from a single Celtic root $*kamb-$ or $*k(e)mb-$ basically meaning 'turn, twist, (ex)change' or the like and also seen in Gaulish *cambion* 'crooked' plus Gallo-Latin *cambiare* 'exchange', as plausibly suggested by de Bernardo Stempel (1987, 96-7). However, she is then confronted by an insoluble problem owing to her rejection of *am*, *an* > *im*, *in* before a voiced stop and insistence upon η , m directly > Goedelic *en*, *em* in this environment. As a result OIr. *cimb(id)* must be derived from $*k\eta\text{mbi-}(yati-)$ and *camb* from the $*(s)kambo-$ also seen in Gk. $\sigma\kappa\alpha\mu\beta\acute{o}\varsigma$ 'crooked'. If so, these can hardly be from the same root since the zero grade $*k\eta\text{mb-}$ implies a full grade $*ke/omb-$ not $*kamb-$, while the latter's invariable *a* almost certainly rules out the possibility of a zero grade $*k\eta\text{mb-}$. Accordingly the semantically attractive derivation from a single root can only be upheld either by deriving *camb* etc. from $*k\eta\text{mbo}/\bar{a}-$ and *cimb(id)* etc. from $*k\eta\text{mbi-}$ or $*k\text{embi-}$ or by positing the preforms $*kambo/\bar{a}-$ and $*kambi-$ respectively. The former entails OIr. *am*, *an* < η , m before voiced stops under certain circumstances while the more probable alternative, given Gk. $\sigma\kappa\alpha\mu\beta\acute{o}\varsigma$, demands Primitive Irish fronting of old *an*, *am* to *in*, *im* before a voiced stop in conditions that have yet to be determined.

Since the theories of Schmidt and de Bernardo Stempel can cope with neither of these two possibilities nor with OIr. *land* (2.4c), they must be abandoned in favour of the only hypothesis with any potential in this regard, namely that of a general Proto-Celtic η , m > *am*, *an* already found to be fully compatible with the OIr. reflexes in 2.4(a), (b), (d) and (f).

The first of two positive pieces of evidence for Primitive Irish *an*, *am* > *in*, *im* drawn to my attention by Damian McManus is provided by an inscribed stone from the Isle of Man. This contains an inflectionally latinised British AMMECATI in the Roman alphabet on one face and Ogam Irish [AM]B[I]CATOS with native inflection on the rim, both in the gen. sg. as is usual in this material. The British equivalent plus corresponding OIr. *Imchad* < $*\text{imbi-xa}\theta\text{uh}$ (< $*\text{-katus}$; gen. *Imchado* < $*\text{imbi-xa}\theta\bar{o}h$) leave no doubt about the restoration of missing [M] and [I]. Since, however, there is no room at the beginning for the five notches representing I in the Ogam alphabet, it seems necessary to

restore the single notch standing for A there. The traditional doctrine that Proto-Celtic *m̥* yielded *am* in British but *em* in Irish leads to the utterly *ad hoc* speculation that the Irish name in Ogam retained its proper /mb/ in the face of British /mm/ by assimilation but then unaccountably replaced its inherited initial /i/ with an /a/ taken from the British equivalent (*LHEB* 173, n.1, and McManus, 1991, 113). This embarrassing inconsistency is, of course, easy to resolve by accepting PIE η , $m̥$ > PC *am*, *an*, which did not become Irish *im*, *in* or the like in front of a voiced stop before the fourth or fifth century A.D. to which this inscription can be plausibly dated. In that case [AM]B[1]CATOS is a genuine Primitive Irish form throughout and also the entirely regular precursor of OIr. *Imchado*.

The second piece of evidence points still more unequivocally to a relatively late Primitive Irish *an* > *in*, this time before *g*. OIr. *ingor* 'anchor' < Lat. *ancora* is arguably one of a group of pre-Christian Latin borrowings associated with maritime trade (McManus, 1983, 42-4). After pointing out the lack of a satisfactory explanation for *in-* rather than the *an-* predicted by conventional assumptions about historical Irish phonology, McManus rightly insists that 'whatever about its form, however, *ingor* is surely one of the oldest Lat. loan-words in the Irish language' (1991, 60, n. 117). As well as establishing the early sixth century A.D. as a *terminus post quem non* for its adoption, substitution of *nd/g* for Lat. *nt/c* here (cf. OIr. *ungae* 'ounce' < Lat. *uncia*) rules out borrowing before the roughly third-century but at any rate pre-Ogam Irish change of *nt* > *d* that made it necessary (if borrowed earlier than this, *ancora* would have produced OIr. **écor*). The failure of **ingora* (< **angora* for *ancora*) to undergo lowering to **engora* is puzzling in view of *tengae* 'tongue' < **teng^wāh* < **tng^wāh* < **tang^wāt-s* or 3pl. *-cengat* < **king-o-nt(i)* alongside 3sg. *-cing* 'steps' < **king-e-t(i)* (< **keng-e/o-*). The problem could be resolved if the form borrowed were *ankura* closer to or identical with the Greek original, but a borrowing from a Greek seafarer seems a distinctly long shot and remodelling of the Latin under the Greek form's influence is hard to envisage in the non-learned milieu to which Irish apparently owes this early loanword (but see Schrijver, 1993, 50 on the possibility of a Vulgar Latin pronunciation **ankura*). Whatever about its real or apparent resistance to lowering, its source Lat. *ancora* leaves no room for doubt about *ang-* > *ing-* yielding OIr. *ingor*.

Since it will emerge later (IV.2.4) that the basic divergence between *an*, *am* and *in*, *im* before a voiced stop can only be explained with reference to a following vowel, the change of *an*, *am* to something like *in*, *im* in appropriate environments must have occurred before the loss of final syllables in Primitive Irish around 500 A.D (*LHEB* 143). Accordingly, the hitherto intractable problem of the fronting of *a* in *ingor* < *ancora* can be straightforwardly

resolved by positing a fifth-century date for the loan at latest and regular Primitive Irish *an/m* > *m/m* before a voiced stop in certain combinations by the end of that century. Ogam [AM]B[1]CATOS > OIr. *Imchado* can, of course, also be covered quite easily by dating this conditioned change *an/m* [æn/m] > *m/m* to, say, some time in the fifth century.

2.7 There can, then, be no reasonable doubt that before a voiced stop pre-Celtic η , m yielded Irish *an*, *am* in some contexts at least (notably *land* in 2.4c) and that *an/m* were fronted to *m/m* in others as late as the fifth century A.D. Obviously any *an/m* < η , m by a much earlier Proto-Celtic change would inevitably have been affected by the latter, thus covering 2.4(e) above and making, say, OIr. *ingen* 'nail' < $*\eta g^w ina$ < $*a\eta g^w inā$ < $*a\eta g^w$ < $*h_3\eta g^wh$ - or *imbe* 'of butter' < $*imbēh$ < $*ambē-s$ < $*ambē-s$ < $*h_3\eta g^w en-s$ perfectly viable. Indeed, Ogam [AM]B[1]CATOS = OIr. *Imchado* makes PIE $*h_2mb^hi$ > PC $*ambi$ [æmbi] > Ogam Ir. /ambi/ [æmbi] > $*Imbi$ > OIr. *im(m)* virtually inevitable. As for the distribution of OIr. *an/m* vs. *in/m* in this environment, examples of the former appear to be confined to where a labial or dental voiced stop (*b*, *d*) was once followed by a back vowel *a* or *o*, the latter development being attested elsewhere. It is, of course, necessary to make the perfectly reasonable assumption that within a given paradigm synchronically anomalous alternations such as those between nom. sg. *camb* or *land* < $*kambos$, $*landā$ and gen. sg. $*cimb$, $*linde$ < $*kambī$, $*landiyās$ were eradicated in favour of the *a*-vocalism to give gen. sg. *caimb*, *lainde* and so on.

In this respect particular significance surely attaches to the otherwise problematical alternation between *camb* < $*kambo/ā$ - and *cimb(id)* < $*kambi-(yati-)$ above. To this may now be added the case of *and* 'in him/it, there(in)' vs. *ind-* elsewhere, notably as preverb or as preposition in combination with other pronominal forms, e.g. *ind* 'into it/him', *indi* 'in her', *indib* 'in(to) you!'. The inevitable comparandum for *ind-* is British *an(n)-*, Gaulish *ande-* 'in' cognate with OInd. ad^hi < $*h_1\eta-d^hi$ (cf. OLat. *endo-*, *indu-*), the corollary being that 'conjugated' forms such as *ind*, *indi* or *indib* derive from $*and'-e(n)$ < $*and(e)-ed/m$, $*and'-iyī$ < $*and(e)-iyai$, $*ande-swis$ respectively and so on (Ellis Evans, 1967, 136-41). Fronting of *and* to *ind* before *e* or *i* is, of course, in perfect conformity with the present hypothesis, which can then explain its failure to apply to *and* by straightforward derivation of the latter from an $*andom$ directly comparable with Hitt. *andan* and Gk. $\epsilon\nu\delta\omicron\nu$ '(with)in' < $*h_1\eta-dom$. In short, the Old Irish reflexes of a PIE syllabic nasal before voiced stop are not only quite compatible with PIE η , m > Proto-Celtic *an*, *am* but actually require such a postulate if a number of otherwise puzzling forms are to be accounted for satisfactorily.

The Irish and British evidence, then, fully accords with general η , m > *an*, *am* in Proto-Celtic and, if the acc. sg. of an OIr. fem. \bar{a} -stem like *túait*

'tribe' is to be derived from **tōten* < **towtam* < **tewtām* (Cowgill, 1975, 49), there is clearly no difficulty in deriving, say, OIr. *deich* 'ten' from **deken* < PC. **dekam* < **dekm̥*. It has already been seen (II.5.1) that the Gaulish data in particular can be best accounted for by positing the late Proto-Celtic development of fronted allophones [æ] and [æ̃] of /a/ and /ā/ respectively (followed by shortening of vowels before *-m*) before nasal plus obstruent as well as before a double or final nasal, in which case the derivation of Old Irish acc. sg. *túaith* and num. *deich* can be straightforwardly restated as < **tōthen*, **dexen* < IC **tōtæn*, **dekæn* < PC **toutæm*, **dekæm* < **toutāem*, **dekæm* < **toutām*, **dekam* < PIE **tewteh₂m*, **dekm̥*. Moreover, this hypothesis of Proto-Celtic fronting of *a* to *æ* before a nasal in the environments specified is extremely neat as applied to the various Old Irish reflexes in 2.4. In the case of **-ans* > **-ās* in 2.4(a) the nasal was simply lost with compensatory lengthening prior to fronting, in 2.4(b) it is a straightforward case of unfronted PC *an/m* surviving unchanged to give OIr. *an/m*, and in the other environments fronted PC *æn/m* was either invariably raised/fronted still further (2.4d/f) or underwent a late split between retraction to *a* before a (non-high?) back vowel (2.4c) but otherwise fronting (probably via /e/ [I]) to *i* (2.4e): e.g., PC **ban-om* > OIr. *ban* (2.4b), PC (**gannd-* >) **gænn(d)-* > OIr. *-geinn* (2.4d), PC (**landā* >) **lændā* > PrimIr. **landa* > OIr. *land* (2.4c) vs. PC (**ambi-* >) **æmbi-* (Og. AMBI-) > OIr. *imb-* (2.4e), PC (**ankus* >) **ænkus* > **ēguh* > OIr. *éc* (2.4f).

3.1. THE GALLO-BRITISH HYPOTHESIS. The results of the above discussion of the reflexes of the PIE syllabic nasals *n̥* and *m̥* in Celtic may be summarised as follows. In Proto-Celtic these became *an*, *am* in all environments but were subsequently fronted to *æn*, *æm* before an obstruent, another (homor-ganic) nasal or in auslaut. The Celtiberian record shows no trace of this for the most part allophonic variation and it seems to have been largely given up in favour of *am* in British too. However, Gaulish and Irish do present clear reflexes of it and there are compelling reasons for thinking that the *en*, *em* or *in*, *im* presupposed by or actually attested in OIr. contexts 2.4(d)-(f) arose secondarily there from *æn*, *æm* < *an*, *am* at a demonstrably late stage of Primitive Irish that will be discussed further in the next chapter (IV.1.3 and 2.4). It follows from this that the ancestor of Goedelic had not yet split off from the rest of Celtic when the syllabic nasals were resolved into vowel (basically /a/) plus nasal. Since *k^v* > *p* has already proved an unreliable support for a distinct Gallo-British group within Celtic, it must be concluded that neither of the two criteria central to Schmidt's model in 1.1 has any genetic validity or constitutes a remotely serious obstacle to the hypothesis that within the Celtic family Irish and British are particularly closely related through a common

Insular Celtic intermediary.

John Koch's (1992b) recent advocacy of the case for Gallo-British has been subjected to telling criticism by Peter Schrijver, who points out that a number of the 'allegedly shared... developments... are typologically trivial' (1995, 464) and that three of the four remaining agreements deemed more circumstantial demonstrably took place later in British than in Gaulish and so cannot have arisen during a common Gallo-British stage. Thus although 'much has been made of the development **nm* > **nw*, which is unknown to Irish but occurs in both Gaulish and British' as in OIr. *ainm*, OB *anu*, Gaul. *anuana* in II.3.3, 'it seems not to have been noticed that the Latin loan *mynwent* < **Munwent* < *monimenta* shows that we cannot assign a date before the LPBr. syncope (6th c. AD according to Jackson 1953) to the development in Welsh' (Schrijver, 1995, 463). 'All this points to the conclusion that the alleged Gallo-Brittonic developments belong to the early centuries AD, when both Britain and Gaul were dominated by Rome. They seem to have spread steadily from southern Gaul to Britain, in the same direction as Roman culture and all its concomitant features..... The relatively late spread of these linguistic features from Gaul to Britain tells us little about the relation between Gaulish, British and Irish in the centuries before the Roman occupation of Gaul and Britain. One may well argue that the period of Insular Celtic linguistic unity, when the characteristic Insular Celtic verbal system was developed, dates to before the Roman conquest of Britain' (Schrijver, 1995, 465).

This is a timely rejoinder to Koch's claim that 'the Insular Celtic phenomenon, where it diverges from Gaulish, can be explained as a result of common late survival and continued mutual influence within the British Isles after the cultural preëminence of Celtic Gaul had been broken by the Roman conquest' (1992b, 495). It is far from clear why incorporation of Britain as well as Gaul into a Roman Empire noted for good communications should have ruptured linguistic interaction between the two across a narrow sea and fostered relations over a significantly wider piece of water between the British Celtic of the Roman province and its Goedelic counterpart on an island outside the Empire. This is not, of course, to deny the possibility of such contacts, particularly in the wake of Irish settlement in Wales in and after the fifth century A.D. Nevertheless, there is no *a priori* ground for according more weight to these than to comparable cross-fertilisation between Gaulish and British in the Roman period.

After briefly discussing the question of *k^w* and the syllabic nasals Russell resorts to a fudge regarding the relationship between Goedelic, Celtiberian, British, Gaulish and Lepontic: 'It is at least theoretically possible that all the sub-groups of the Celtic group are to be derived directly from Proto-Celtic... and that any striking parallels between sub-groups is [*sic*] due to subsequent contact between speakers. To point to one historically documented case, we

know that speakers of Brittonic and Gaulish were in contact in the 1st century BC... The difficulty is then merely displaced to deciding which features represent a genetic relationship as opposed to those which are due to language contact' (1995, 17-8). This, however, is a difficulty that should be confronted by serious evaluation of the alternatives rather than evaded by trite generalisations.

3.2 The upshot of the foregoing sections is that arguments for the early separation of Goedelic, for a specifically Gallo-British genetic node or for a clear distinction between Gaulish and Lepontic (cf. the diagram in 1.1) are neither individually nor cumulatively persuasive. The most serious phonological arguments deployed by Koch (1992, 484-91) in support of a further node shared by Gallo-British and Goedelic but excluding Celtiberian, namely the latter's supposed failure to share fully in the change $\bar{o} > \bar{u}$ in final syllables or in the monophthongisation of $ei > \bar{e}$, have been questioned in the previous chapter (II.5.3-4), where it was argued that both developments were probably Proto-Celtic. Doubts were also expressed there (II.5.3) about the validity of Goedelic, British(?) and Gaulish *o*-stem nom. pl. *-oi* as a criterion for genetic classification. The Celtiberian *o*-stem gen. sg. in *-o* vs. Goedelic, British and Gaulish *-ī* only has diagnostic value if the possibility of innovation by Celtiberian here can be excluded, which is scarcely the case (McCone, 1992, 17; Eska, 1995; II.5.4). The separate locative seen in **somei** vs. dat. **somui** on Botorrita I looks more promising, given that locative forms are only attested in dative function in Irish and (so far) Gaulish. Nevertheless, this syncretism, which occurred independently in Greek, could have occurred separately in each (see 1.3 above) and so does not necessarily point to a common node from which Celtiberian was excluded. The significance of the Celtiberian ablatives **-uz**, **-iz**, **-az** etc. < **-ūd*, **-īd*, **-ād* identified by Villar (1995, 17-37; 1995b, 8-16) depends upon whether expansion beyond *o*-stem **-ūd* < PIE **-ōd* is viewed as a Celtiberian innovation, in which case their genetic import is slight, or as a Proto-Celtic or even Italo-Celtic feature, the absence of which in Insular Celtic and (so far) Gaulish would have more diagnostic value. In short, although the possibility cannot be ruled out, there is no conclusive evidence as yet that Celtiberian split off particularly early from the rest of Celtic.

4.1. LENITION. The obvious feature to take as a starting point for evaluation of the claims of Insular Celtic as a specific sub-node in the Celtic family tree is lenition, which is found in both Irish and British Celtic but is often assumed not to have been present in Gaulish or Celtiberian.

Considerations of economy clearly favour ascribing a date no later than Insular Celtic to the process responsible for turning *s* into *h* and voiced stops into the corresponding voiced fricatives (*b, d, g, m > v, ð, γ, v̄*) between a vowel and a resonant (vowel or *y, w, r, l, m, n*) as well as (probably) in post-

vocalic auslaut in both Irish (I.6.1) and British (I.4.2). Lenition would appear to have applied to *r, l, n* except in word-initial position or in contact with a homorganic consonant (i.e. before *t, d* and before or after *s, r, l, n*; Lewis and Pedersen, 1937, 48-56). At present distinctions of this type in the liquids and *n* are best preserved and variously realised in Donegal Irish and Scots Gaelic. Although it is not possible to establish the exact difference between unlenited *R, L, N* (written *r, l, n* or *rr, ll, nn*) and lenited *r, l, n* (regularly written *r, l, n*) in or before the Old and Middle Irish periods, the Welsh opposition between unlenited *rh, ll /ʎ/* and lenited *r, l* clearly reflects a corresponding distinction in the British and presumably Insular Celtic liquids. In this case it seems likely that fortis and lenis doublets arose by strengthening in specific environments to yield the former rather than by weakening in others to produce the latter. Be that as it may, the voiceless stops were lenited to the corresponding voiceless fricatives in Irish (*t, k, k^w > θ, x, x^w*) but to the corresponding voiced stops in British (*p, t, k > b, d, g*), which makes their incorporation into a single comprehensive lenitional process before the separation of Irish and British a good deal more problematical.

Writing at a period when too little was known about Continental Celtic for the question of an Insular Celtic or a Proto-Celtic origin to be worth posing, Pedersen (*VKG* I 427-30) saw lenition as a development affecting 'virtually all non-syllabic sounds in Celtic' between a vowel and another resonant, suggesting that the discrepancy between Irish (len. /θ/, /x/ vs. unlen. /t/, /k/) and British (len. /b/, /d/, /g/ vs. unlen. /p/, /t/, /k/) treatment of voiceless stops could be rooted in a pre-separation opposition between unaspirated lenis /t/, /k/, /k^w/ and aspirated fortis /t^h/, /k^h/, /k^wh/. André Martinet (1952; 1955, 257-96), having rightly dismissed the possibility of the Irish and British lenitions being entirely independent of each other (1955, 262), suggested that a tendency to simplify postvocalic geminates pushed the old non-geminates towards a weaker articulation. As far as the stops were concerned, this entailed lenition of *p, t, k, k^w, b, d, g, g^w* to *b, d, ġ, ġ^w, v, ð, γ, γ^w*, the further suggestion being made that a similar development underlying the stops of Western Romance (basically France and the Iberian peninsula) might well be due to the influence of a Celtic substratum, although independent developments of so typologically probable a nature could hardly be ruled out. Here too the implication was that the seeds of the whole range of lenitions observed in Irish and British could be projected back to a common Celtic prototype. Confining himself to the stops, Koch (1990, 197-202) in effect combined these two approaches by positing a Proto-Celtic allophonic opposition between fortis [t^h], [k^h], [k^wh], [b], [d], [g] (to which [g^w] should now be added; II.1.2) and lenis [d], [ġ], [ġ^w], [β], [ð], [γ] (plus [γ^w]). Koch argues that this system survives virtually unchanged in British, allowing for /k^w/ [ġ^w] > /p/ [b] and a rather late tendency to voice the unaspirated voiceless stops represented by him as *b, d, ġ* to *b, d, g* in certain

contexts. In Irish too the only significant innovation was the late fifth-century change of the unaspirated voiceless stops d , g , g^w to the voiceless fricatives θ , x , x^w ($> x$). While paying lip service to a general opposition of some unspecified type between fortis and lenis consonants at an earlier shared phase, Jackson (*LHEB* 543-8) ascribes the final emergence of the attested differences between unlenited and lenited consonants in British and Irish to a separate unitary process across the board in each branch not only in virtually the same environments but also at about the same time, i.e. the second half of the fifth century A.D. (*LHEB* 560-1). The obvious reason for such caution even where British and Irish agree fully, notably in unlenited b , d , g , m vs. lenited v , δ , γ , \tilde{v} , would be the author's doubts firstly as to the genetic validity of Insular Celtic and secondly as to whether there was any reason to posit voiced fricative allophones v , δ , γ , \tilde{v} in Continental Celtic. Be that as it may, the similar, indeed often identical, independent developments posited by Jackson surely constitute too much of a coincidence to be credible.

Attractive though it is, Martinet's suggestion of substratum influence from Continental Celtic vernaculars characterised by lenition upon the consonant systems of Western Romance falls well short of proof that the former actually had v , δ , γ etc. The risk of a circular argument here can only be avoided by the presentation of positive evidence from Gaulish and/or Celtiberian sources for such lenition. In the absence of this, one would have little difficulty in following Pedersen in ascribing the unlenited/lenited oppositions seen in Old Irish (and British too, for the most part) directly to an earlier common phase, arguably best designated Insular Celtic, with the notable exception of voiceless t , $k^{(w)}$ vs. θ , $x^{(w)}$ for the good reason that it is extremely difficult to see how an Insular Celtic voiceless fricative could have become a voiced stop in British. Hence the need for some greater degree of abstraction here, the obvious candidate being an Insular Celtic or earlier allophonic opposition entailing aspirated $[t^h]$, $[k^h]$, $[k^{wh}]$ postconsonantly and before certain other consonants versus unaspirated $[t]$, $[k]$, $[k^w]$ between a vowel and another sonorant as specified at the beginning of this section. Although Koch is basically right to assert that 'prevocally in absolute initial position, the voiceless stops are still aspirates $[p^h]$, $[k^h]$, $[t^h]$ in all the living Celtic languages', the distributional fit between this feature and non-lenition or between non-aspiration and lenition remains far from perfect overall and one might anyway expect the aspirates to be more likely than the non-aspirates to develop into fricative θ , $x^{(w)}$ in Irish. After all, it is $/p^h/$, $/t^h/$ and $/k^h/$ that became $/f/$, $/\theta/$, $/x/$ in the later history of Greek while $/p/$, $/t/$, $/k/$ remained unchanged and a similar development probably occurred in the prehistoric Italic stop system (Palmer, 1954, 227). Nearer home, the so-called 'spirantisation' of British Celtic (4.5 below) affected voiceless stops that were probably aspirated allophones for the most part. In short, it seems quite unlikely that arguable Proto- and/or Insular Celtic allophonic variation between aspirated and unaspi-

rated voiceless stops had any direct bearing upon the lenition of those stops in Irish and British.

One point that does not seem to have been made in the debate so far is simply this: as is clear from a number of other languages, it is by no means inevitable that lenition should affect voiced and voiceless stops simultaneously. For example, Ancient Greek /b/, /d/, /g/ have become /v/, /ð/, /ɣ/ in Modern Greek but /p/, /t/, /k/ underwent no parallel development to /f/, /θ/, /χ/ (Browning, 1969, 33-4). More pertinent still is the second lenition of /b/, /d/, /g/ to /v/, /ð/, /ɣ/ after various vowels and sonorants in Spanish in the absence of a corresponding transformation of /p/, /t/, /k/ (Littlewood, 1979, 21-6) or a similar lenition of voiced but not voiceless stops in Young Avestan (Jackson, 1892, 28 and 31-5). It thus seems perfectly permissible to date a 'first' lenition of voiced stops etc. a good deal earlier than a 'second' lenition of voiceless stops (see Sims-Williams, 1990, 227-36, for additional arguments along similar lines).

Although neither Old and Middle Irish nor Old Welsh orthography indicate the former lenition clearly (I.4.2 and 6.3), Modern Irish and Middle or Modern Welsh orthography do for the most part: e.g., OIr. *domun* /doʋun/ 'earth' (ModIr. *domhan*), MW *dwvyn* /duvn/ (ModW *dwfn*) < *duʋno-* < **dumno-* < PC **dub-no-* (Gaul. *Dumno-*, *Dubno-*) < IE **d^h(e)ub-* (> Lith. *dubùs* 'deep', OE *dēop*); OIr. *slaide* /sLað'e/ 'striking, killing' (ModIr. *slaidhe*), MW *lladu* (/ʔaðü/, ModW *lladdu*) < PC **slad-*; OIr. *lige* /Liɣ'e/ 'lying' (ModIr. *luighe*, *luî*), MW *gwe-ly* 'bed' (< */liɣ/) < PC **(-)leg-yo-m* < PIE **leg^h-* (Gk. *λέχ-ος* 'bed', Got. *ligan* 'lie'). Of course, this lenition occurred under appropriate conditions not only within the word but also (as in the case of Spanish) across the word boundary in syntactically close groups, a development ultimately responsible for grammatical lenition in Irish and British: e.g., OIr. *a lám*, MW *y law* 'his hand' < **ehyo lāṽā* < **esyō lāmā* but OIr. *a (l)lám*, MW *y llaw* 'her hand' < **ehyāh Lāṽā* < **esyās lāmā* with and without initial lenition respectively; OIr. *in benn már* /in ven v̄ār/ 'the great peak' (ModIr. *an bhinn mhór*), MW *y vann vawr* < **indā vannā vārā* < *(s)*indā bannā mārā* with initial lenition (nom. sg. f.) but OIr. *in bráthair már* /in brāθər' mār/ 'the large brother' (ModIr. *an bráthair mór*), MW *y brawd mawr* < *(s)*indos brātīr māros* without it (nom. sg. m.). Since lenition across the word boundary seems unlikely to have come about independently in the two branches, this striking parallelism presumably has its roots at least as far back as Insular Celtic. The next question is whether it originated still further back in Proto-Celtic itself.

4.2 Ellis Evans (1967, 400-4) presents a clear and well-referenced discussion of the arguments and evidence for and against lenition of stops in Gaulish, concluding that spelling confusion in sources in the Roman alphabet between *c* and *g* especially can hardly be due to a British-style lenition of intervocalic

voiceless to voiced stops but probably reflects a discrepancy between the status of voiceless stops in Gaulish and Latin (I.2.4). Certainly such confusion bears no obvious relation to Insular Celtic lenition since it is not confined to post-vocalic position but also occurs initially as well as after a liquid and, moreover, affects not only old /k/ but also old /g/: e.g., *Glanum* or *Clanum*, *Argantomagus* or *Arcantodan*. There is, however, a tendency for intervocalic *g* to disappear. This suggests that in medial position it was sporadically weakened in articulation. Examples: names in *rio-* beside names in *rigo-.....*: *Caia.... Cagius...; Maionus... Maiorix..... Magiona... Magiorix.....*' (Ellis Evans, 1967, 400). Since it seems to occur chiefly in the vicinity of *i*, this Gaulish loss of *g* might perhaps be compared with Lat. *maius* < **magyos* rather than taken as straightforward evidence for a lenited pronunciation of /g/ as [ɣ] between a vowel and another sonorant, the guttural then tending to be lost relatively late and perhaps no more than locally next to *i* especially. Nevertheless, the explanation based on lenition is the obvious one in view of an independent general loss of /ɣ/ a good few centuries later on the way from Old to Middle Welsh (I.4.3). It is also important to realise that, if Gaulish did have both voiced stops [b], [d], [g] and the corresponding fricatives [v], [ð], [ɣ] as complementarily distributed allophonic variants, it would be surprising if both were not regularly spelt *b*, *d*, *g* (as in present-day Spanish) in the absence of special signs for the fricatives in contemporary Latin orthography. Only phonemicisation of the opposition, an extreme case being complete loss of one variant, would be likely to lead to its being given orthographical expression but even this would be far from inevitable, as the spelling systems of Old Welsh (I.4.2) and Old Irish testify (I.6.3). Thus, although the evidence is suggestive rather than conclusive, Gaulish seems more likely than not to have had a purely allophonic opposition between voiced stops and corresponding voiced fricatives virtually identical to the one that was eventually phonemicised in Irish and British.

The evidence of Continental Celtic on this point has been dramatically transformed by Villar's recent discovery (I.3.5) that Celtiberian had a voiced as well as a voiceless sibilant phoneme now to be transcribed *z* and *s* and that the former was the normal outcome of /d/ intervocalically, in postvocalic auslaut and perhaps between any two sonorants. The only reasonable explanation for this is that /d/ was pronounced [ð] in these contexts and then converged with the voiced outcome of /s/ between sonorants to produce a new phoneme /z/ or perhaps /ð/. After a detailed examination (1995, 153-78) of the evidence of numerous placenames in the Iberian peninsula containing the element *-briga* (see II.1.4), *-bria* or the like, Villar remarks: 'This distribution poses an interesting problem which, unfortunately, will remain unanswered for now. I refer to the fact that the loss of intervocalic /g/, traditionally connected with Celtic lenition, prevails in the Latin form *-briga* (> *-bria*) as a substratum

phenomenon in the west and not, on the other hand, in Celtiberia where the Celticity of the population is more obvious and more concentrated. There were, of course, Celts in the west, as we know through various channels. However, there was also another type of population, the Celtic character of which is at least debatable. As I have said, in Celtiberian epigraphy we have only one instance of loss of intervocalic /g/ (*tuateros* and *tuater[r]es* < **dhugəter-*), although there are other more secure indications that the fricative articulation of the voiced stops (the first stage of the process of lenition) was effectively under way. On the other hand, it is necessary to relate this to another western phenomenon, also interpreted as the result of lenition, namely the voicing of the voiceless stops. Signs of this phenomenon in Celtiberian are minimal, whereas in the west they are overwhelming. In a word: the effects of Celtic lenition are more abundant and concentrated in the west (where the Celtic population is less homogeneous) than in Celtiberia itself (1995, 178-9).

As far as Celtiberian is concerned, absence of the expected guttural in **tuater-** (II.4.2) is certainly easier to envisage if intervocalic [ɣ] rather than [g] was missing, even though it remains a mystery why the guttural was lost here and not in other similar environments (*uɣa* > *u(w)a* as opposed to retention of *ɣ* in most other intervocalic environments?). At any rate, there would be little alternative to representing a still pronounced allophone [ɣ] of /g/ as **ka, ke** etc. in the Iberian alphabet.

The upshot of good Celtiberian evidence for postvocalic lenition of *d* to *ð* combined with a number of Gaulish forms plus at least one from Celtiberian indicating a precisely parallel *g* > *ɣ* then liable to sporadic loss is surely quite a strong presumption that the lenition of voiced stops to the corresponding voiced fricatives firmly attested in Irish and British was also characteristic of Continental Celtic and hence is very likely to have been a feature of Proto-Celtic. As far as the labials are concerned, Proto-Celtic **a/own-* > **a/ovn-* might be regarded as more natural than **a/own-* > **a/obn-* (II.3.1), in which case it would be easiest to suppose that a sound [v] had already been brought into being by lenition of /b/. If a form like **dubnos* really was [dubnos] in Proto-Celtic, then the assimilatory nasalisation seen in Gaulish *dumno-* along-side older *dubno-* was presumably to [du̯no-] comparable with the Insular Celtic [du̯nos] underlying OIr. *domun* /do̯ə̯n/ 'world' and MW *dwvyn*. The Proto-Celtic dissimilation of /mw/ to /w/ (II.3.1) could perhaps be still more persuasively restated as [̥w] > /w/.

On balance, then, the evidence points to a first or Proto-Celtic lenition of the voiced stops /b/, /d/, /g/ and perhaps also the nasal /m/ to the corresponding fricatives [v], [ð], [ɣ] and more doubtfully [̥] between a vowel and any sonorant within the word. It would hardly have been possible for /b/ or /g/ to stand in postvocalic auslaut at this stage but the Celtiberian evidence suggests that /d/ was lenited to [ð] in this position, in which case Proto-Celtic probably

did not tolerate postvocalic final stops (I.3.5). On the other hand, the change $-m > -n$ attested in Gaulish and Irish can be seen as an indication that $/-m/$ had not yet been lenited to $/-ṽ/$ in postvocalic auslaut, perhaps because its nasality gave it the aspect of a continuant, and this might call into question its lenition elsewhere after a vowel in Proto-Celtic. It has emerged from the foregoing that there is no unambiguous evidence for voicing or any other sort of lenition of voiceless stops in either Gaulish or Celtiberian and that the Celticity of this phenomenon in the western Iberian peninsula is open to dispute. In any case, the Primitive Irish lenition of voiceless stops to voiceless fricatives (4.4 below) firmly rules out any possibility that voiceless stops had been voiced in leniting environments as early as Proto-Celtic.

There would seem to be no good evidence for lenition over the word boundary in Continental Celtic. Given that the lenition of b , d , g and perhaps m was not normally indicated in Gaulish orthography, lack of clear examples of this phenomenon after words ending in a vowel obviously proves nothing. The same goes for Celtiberian except in the case of z $/z/$ or $/ð/$ for lenited t $/d/$, where examples such as **nekue taunei... nekue masnai tizaunei...** (*Bot. I A2*) seem to imply unlenited postvocalic [daunī] and [dīzaunī] rather than lenited [zaunī] and [zīzaunī] that one might have expected to be spelt ***zaunei** and ***zizaunei**. However, it scarcely follows from the normal indication of such lenition inside the word that phonetic z - [z] would have been written in place of basic t - $/d/$ at the beginning of a word, even if allophonic lenition had applied in such cases (cf., as Peter Schrijver has pointed out to me, Middle Breton representation of lenition of $d > z$ internally but not initially even though it is phonemic there too). There is thus no conclusive evidence either way and all that can be said is that lenition across the word boundary is not yet definitely attested outside Insular Celtic.

4.3 As can be seen from the contexts specified at the beginning of 4.1 above, in Insular Celtic it was rather the case that inherited $/n/$, $/r/$ and $/l/$ were strengthened to [N], [R] and [L] in certain non-leniting environments than that lenition took place in the normal way. As yet there is no good reason for ascribing a Proto- rather than an Insular Celtic date to this peculiar development, one admittedly rather weak argument against the former being the Celtiberians' lack of interest in the second r -sign of the Iberian alphabet (I.3.5).

Lenition of s to h between a vowel and another sonorant as well as in postvocalic auslaut can hardly have taken place as early as Proto-Celtic in view of the intervocalic z reflex in Celtiberian (I.3.5), since this is a very natural outcome of s (cf. intervocalic $s > z$ in Oscan and $s > z > r$ between vowels in Latin and Umbrian; Buck, 1928, 74; Palmer, 1954, 230) but seems quite implausible as a development of h . Indeed, apart from probably PC $-m(m)- < -sm-$ (II.2.1), there is no evidence for loss of s in any position in Celtiberian. In Gaulish 'IE s was normally preserved initially and medially between

vowels..... Final *-s* is commonly retained..... But there are also quite a number of examples showing the loss of *-s*..... In the Latin of Gaul *-s* was generally maintained. But forms without *-s* are certainly not hard to find in texts other than the Celtic inscriptions, especially in potters' stamps' (Ellis Evans, 1967, 397; see McCone, 1994, 277-8 on Gaul. SUIOREBE). Examples of initial *h* for *s* and loss of intervocalic *s* are extremely rare in Gaulish, while better attested loss of final *-s* is found too late and sporadically for a connection with lenition of the same to *h* and then non-initially to zero in Insular Celtic to be at all likely. Loss of postvocalic *-s* as a sandhi phenomenon in Proto-Celtic in front of *m-*, *n-*, *r-*, *l-* seems a possibility if the assimilation in II.2.1 occurred over the word boundary, in which case *sm-*, *sn-*, *sr-*, *sl-* would have been generalised from non-postvocalic environments in OIr. (the last three then secondarily acquiring lenited *hn-*, *hr-*, *hl-*) and *mm-*, *nn-*, *rr-*, *ll-* from postvocalic ones in British. A nucleus of forms without *-s* that arose in this way may perhaps have been expanded somewhat in later Gaulish. However, this is far from certain and anyway cannot be considered lenition as such. Apart from chronological problems, loss of *s* in Gaulish simply does not occur in the same environments as in Insular Celtic, where *-h* was not lost in auslaut until quite late in the separate prehistories of Irish and British (IV.1.2 and 4.2). Consequently there is no evidence in Continental Celtic to prove that lenition of *s* to *h* in any position was a Proto-Celtic phenomenon.

On the other hand, Schrijver (1995, 377-83) has convincingly vindicated the view that lenition of *s-* to *h-* was characteristic of both Irish and British but that the resultant grammatical mutation was abandoned in the latter, mostly in favour of *h-* but sometimes in favour of *s-* throughout, dual reflexes of one and the same root being particularly significant; e.g., MW *hed(d)* 'peace', *sed(d)* 'seat' < **sedos*, *hil* 'seed, offspring, race', *sil* 'race' < **sīlom*, *hawdd* 'easy' < **sādo/ā-*, *seith* 'seven' < **sextam*. That being so, postvocalic lenition of *s* to *h* seems to be reflected in exactly the same contexts in Irish and British, namely *-V sR-*, *(-)VsR-* or *(-)Vs* (*V* = vowel, *R* = any sonorant including a vowel), and almost certainly originated in Insular Celtic.

At first sight Ogam spellings such as *-CUNAS*, *-CONAS* and *-CONA* (OIr. *-chon*) seem to represent /*kunas*/, /*konas*/ and /*kona(h)*/ and thus to imply that /*-s*/ survived lowering before becoming /*-h*/ and then *-Ø* prior to the loss of final short vowels known as the Primitive Irish apocope (McCone, 1982, 24-5). However, this is an uncomfortably squeezed chronology entailing *-s* > *-h* (retained before and then transferred to a following vocalic anlaut on the clear evidence of later Irish) > *-Ø* in about half a century at most and DRUGNO beside DROGNO (*u-* or *i-* stem gen. sg. seen in the sept name *Uí Dróna* according to Ziegler, 1994, 172) rather suggests that weakening to /*-h*/ at least had occurred before lowering. In that case post-lowering examples like *-CONAS* are to be

read as /kona(h)/ and the possibility that Ogam -s generally represented /-h/ seriously entertained. Given that the Ogam alphabet in all probability did not originally possess a special sign for /h/ (McManus, 1986, 24-9) and that Ogam s in anlaut like its Old Irish counterpart (prior to the ninth-century adaptation of the *punctum delens*) will have stood for /s-/ or in leniting contexts /h-/ just as T(T) represented /t/ or /θ/ and so on, there were only two possible ways of dealing with /-h/ in this orthographic system: it could either be ignored altogether or else represented by s in its secondary (lenited) value. There is, then, no compelling reason to ascribe the value /-s/ rather than /-h/ to -s in auslaut on any Ogam inscription (I.5.2).

Consequently we can posit a second or Insular Celtic lenition of $s > h$ that definitely operated across the word boundary in syntactically close groups and may well also have entailed lenition of postvocalic $b-$, $d-$, $g-$, $m-$ over the word boundary as opposed to within the word, where lenition of the voiced stops and arguably of m too had very probably already occurred in Proto-Celtic (4.2).

4.4 The Irish lenition, which transformed the voiceless stops t , k into the corresponding voiceless fricatives θ , x intervocalically, between a vowel and a resonant or in postvocalic auslaut in Irish, must be located before the loss of $-h$ and $-n$, which logically preceded the loss of final short vowels known as the 'general apocope' around 500 A.D. (IV.4.3). If it had not taken place before this, alternations such as OIr. *in chloch thromm* 'the heavy stone' < **indā xloxā θrumbā* < **(s)indā klokā trumbā* (nom. sg. f.) vs. *in cailech tanae* 'the thin cock' < **indah kaliyaxah tanawiyah* < **(s)indos kaliākos tanawyos* would defy explanation.

Jackson (*LHEB* 122-48) dates Irish lenition to the second half of the 5th. century A.D. because it affected words such as MidIr. *ortha* 'prayer' < Lat. *oratio* borrowed into Irish from British Latin around the middle of that century in the wake of Patrick's mission. However, this leads as usual to a very tight chronology and the basic argument is hardly compelling since it would be quite natural to adapt such loans to the phonetic system of Irish at the time, which would have entailed two complementarily distributed allophones of each single consonant, namely a lenited variant between a vowel and another resonant or the word boundary as opposed to an unlenited variant (quite likely still phonetically geminated between vowels) everywhere else. That being so, Lat. *oratio* would presumably have been borrowed as **oraθ'iyu* (> OIr. **orthu* > MidIr. *ortha*) even if the Irish lenition had already taken place. Consequently it is not possible to ascribe a more precise date than one between the beginning of Proto- and the middle of Primitive Irish to the lenition of t , k , $k^w > \theta$, x , x^w . Ogam orthography does not recognise this lenition (McManus, 1991, 85-7), although it must have been in effect at least by the time of later inscriptions reflecting loss of final syllables: e.g. Ogam QRIMITIR RONANN MAQ COMOGANN

/k^wri̯iθir' rōnān' ũak' xo̯oγān'/ '(the stone) of the priest Rónán son of Comgán' = OIr. *cruimthir Róná(i)n maic Comgá(i)n*.

Kortlandt offers the following ingenious argument for what would then be a second Irish lenition. 'Since **-nt-* and **-nk-* did not merge with **-nd-* and **-ng-*, which remained unchanged, the voicing of **t* and **k* in the former sequences must have been posterior to the loss of the nasal. Thus, I assume that the intervocalic stops in *cét* < **kentan* 'hundred' and *éc* < **enkuh* 'death', Mod. Ir. *céad* and *éag*, became the new intervocalic variants of /t/ and /k/ when the nasal was lost. At the same time the intervocalic fricatives **θ* and **x* received the status of a phoneme.... This development was independent of and apparently earlier than both the simplification of geminates and the loss of final **h*. When final **h* was lost, new intervocalic stops arose and the lenited variants of the voiced occlusives received the status of a phoneme, so that the alternation became a grammatical one. The intervocalic stops which had arisen from the original sequences **-nt-* and **-nk-* now merged with the unlenited stops /d/ and /g/ respectively, so that we arrive at the characteristic Irish alternation between unlenited /t/, lenited /θ/, and nasalized /d/.... Thus, the chronological analysis attempted here leads to the paradoxical conclusion that the rise of a grammatical alternation between /t/ and /θ/ was caused by the loss of a preceding **n*, whereas the rise of a grammatical alternation between /t/ and /d/ was caused by the loss of a preceding **h*' (1982, 78-9).

Given the argument below (4.5) that voiceless stops in British underwent a first postvocalic lenition to *b*, *d*, *g* and then, after the loss of various con-sonants that had impeded this, a second postvocalic lenition to *f*, *θ*, *x*, there can be no fundamental objection to positing a comparable two-tier process in Irish, the difference being that in this case the voiceless fricatives were the result of the first lenition and the voiced stops were due to a second postvocalic lenition after loss of *n* before a voiceless stop. Since Ogam inscriptions present a couple of examples of loss of *n* plus voicing and none of retention of *nt* or *nk*, it seems likely that *nt*, *nk* > *d*, *g* had been completed before the fifth century. Acceptance of Kortlandt's explanation thus necessitates a still earlier date for lenition of *t*, *k*^(w) to *θ*, *x*.

However, although this scenario is a serious possibility and has been combined by Schrijver (1993, 33-5) with nasalisation of a preceding vowel before loss of /n/, it is not the only one capable of accounting for the facts. According to Thurneysen, 'the stages of this development were probably as follows. First, *k* and *t* were intensified (geminated), as after *r* and *l*... The nasal then coalesced with the preceding vowel into a nasal vowel... After these nasal vowels the geminates became voiced (*gg*, *dd*). Subsequently *i*, *q*, *u* lost their nasal quality and became *i*, *o*, *u*, while *q* and *ɸ* fell together as the nasal vowel *ɸ*. The latter was lengthened, perhaps only when stressed, and later changed

into purely oral \bar{e} (or e)' (*GOI* 127). Shorn of the gratuitous assumption of gemination, this explanation seems quite viable. However, a further distinct possibility is Greene's view that 'the nasal was certainly a lenis when the stop was unvoiced, for the development from $-nK-$, $-nT-$ through $-nG-$, $-nD-$ to $-G-$, $-D-$ (exactly paralleled in Modern Greek...) is already completed in the Ogam inscriptions. Since there is no confusion between this series and $-nD-$, $-nG-$ we may assume that the nasal in these had become a fortis at an early date' (1960, 105-6). The advantage of Greene's explanation is that it is based upon well established voicing tendencies on the part of nasal stops and upon an actually attested strengthening of n to N before d (I.4.1) that can easily be extended to position before g . Hence $*\text{aenguh} > *aNguh > \text{OIr. } \textit{ing}$ 'straight' but $*\text{aenkuh} > *aenguh > *e\text{g}uh > \text{OIr. } \textit{éc}$ 'death' and so on. Admittedly strong N is found before t as well as d in Old Irish, but OIr. $-(n)nt-$ only came into being after syncope.

In conclusion, Kortlandt's explanation of $nt, nk > d, g$, while feasible, is not secure as a criterion for dating lenition of $t, k^{(w)} > \theta, x^{(w)}$ in Irish to the fourth century A.D. or earlier, although Jackson's case above for the later fifth century remains far from compelling. Indeed, it must be considered virtually impossible when it is recalled that no less than three successive stages require completion before the loss of a final short vowel that is to be equated with the so-called 'apocope' of c. 500 A.D. (IV.4.3), namely postvocalic $-t > -\theta$ (Irish lenition), $-\theta > -h$ (IV.4.1) and $-h > \emptyset$ (IV.4.2). That being so, it is difficult to date the Irish lenition of $t, k^{(w)}$ to $\theta, x^{(w)}$ much later than the beginning of the fifth century, regardless of whether or not one accepts Kortlandt's explanation, and a date in or even before the fourth century can hardly be ruled out.

4.5 Like its Irish counterpart, the first British lenition of voiceless to voiced stops between a vowel and a sonorant must have occurred before the loss of old final consonants/syllables in British in order to explain the dichotomy between, say, MW $y \textit{gadeir drom}$ 'the heavy chair' < $*\textit{indā gadeyrā drombā}$ < $*(s)\textit{indā kateōrā trumbā}$ and $y \textit{cledyf trwm}$ 'the heavy sword' < $*\textit{indah klaðivah trumbah}$. It can be more precisely dated with the help of British Latin loanwords in Irish. It follows from the high likelihood that British Latin was basically pronounced in the native manner (I.4.2) that OIr. loanwords such as \textit{cucann} /kugəN/ 'kitchen' < Lat. $\textit{coquina}$ /kogīna/, \textit{Laiten} /lad'əN/ 'Latin' < Lat. \textit{Latina} /ladīna/, $\textit{notaire}$ /nodər'e/ 'amanuensis' < Lat. $\textit{notarius}$ /nodōriuh/, \textit{eclais} /egləs'/ 'church' < Lat. $\textit{ec(c)lesia}$ /eglēsial/, $\textit{loc(c)}$ /log/ 'place' < \textit{locus} /loguh/, \textit{sacart} /sagərd/ 'priest' < Lat. $\textit{sacerdos}$ /sagerdōh/ were absorbed after British lenition of voiceless to voiced stops (e.g. *LHEB* 127-8). Since the precursor of a form like \textit{cucann} demonstrably predates the three crucial pre-apocope developments listed in IV.2.1 and that of a form like $\textit{notaire}$ likewise dates from before the pre-apocope shortening of unstressed

vowels, Jackson's view that borrowings of this type 'all seem to be later than the loss of final syllables in Irish' (*LHEB* 143) cannot be sustained (see I.6.6 and VI.2.5 on McManus' model, on which the discussion here is based). On the contrary, the first loanwords reflecting British voicing must have come into Irish before the three successive changes just referred to, all of which Jackson (*LHEB* 143) would squeeze rather too closely for comfort into the second half of the fifth century. That being so, Jackson's claim that 'the Late British lenition... took place in the second half of the fifth century' (*LHEB* 561) should surely be revised to under no circumstances later than the middle and perhaps nearer to the beginning of that century.

Obviously loanwords that do not reflect British lenitional voicing such as MidIr. *ortha* 'prayer' in 4.4 above or OIr. *cuithe* 'pit' < Lat. *puteus* (I.6.6) must then be still older than this. Since this stratum contains an earlier group, to which *cuithe* belongs, with substitution of Irish *k^w* (> OIr. *c*) for Latin *p* and a later one, exemplified by OIr. *pairche* < Lat. *paruc(h)ia*, *pridchid* 'preaches' < Lat. *pr(a)edicat*, *peccath* 'sin' < Lat. *peccatum*, with no such substitution (McManus, 1983, 37-41), Old Irish words reflecting *k^w* for Latin *p* would seem to be particularly old and quite unlikely to have been borrowed after the first couple of decades or so of the fifth century. So early a date for Christian Latin borrowings such as OIr. *cásc* 'Easter' < *pasc(h)a* is perfectly compatible with Prosper's information that there were already Christians in Ireland when Palladius was sent as 'first bishop' in 431 A.D. (cf. I.5.1). It has the further more striking corollary that, in the likely event that OIr. *Cothrige* ultimately reflects the original Irish form **K^waθrixiyah* of the Latin name *Patricius* as convincingly reasserted by Koch (1990) against Harvey (1985), Mario Esposito's (1957) hypothesis that Patrick's mission actually preceded that of Palladius receives linguistic corroboration, as argued by Koch (1990) along somewhat different lines.

What will here be termed the second British lenition is described as follows by Jackson. 'British *pp*, *tt*, *cc*, *lp*, *rp*, *rt*, *lc*, *rc* of whatever origin give in WCB. respectively *f*, *th*, *ch*, *lf*, *rf*, *rth*, *lch*, *rch*. There is no need to discuss here how this happened, a matter on which there has been some dispute; though in the case of *lp*, *rp*, *rt*, *lc* and *rc* it may be noted that the stops were very likely geminates in these consonant groups..., so that they would develop in the same way as *pp*, *tt*, *cc*' (*LHEB* 565). This implies that this was not a lenition as such but rather a peculiar British transformation of voiceless geminate stops. At the end of his celebrated article debunking the (morpho)phonemic status of gemination in Old Irish Greene demurred: 'I take it that consonants in sandhi with final *-s*, *-t*, *-k* in Welsh, as well as final *-n* in Breton, were preserved strong, in all cases. After the loss of final syllables the tenues were weakened for lack of opposition and were then further weakened to *f*, *th*, *ch* in all leniting positions - a weakening of the same type as the earlier lenition of the mediae.

The same weakening occurred after particles which now ended in a vowel (final *-s*, *-t*, *-k* and, in Breton, *-n*, having dropped before consonants) - e.g. *y* 'her', *tra*, *a* and so on.... I take the development of this mutation as more or less contemporary with the rise of provection. It was the latter process which provided a new series of tenuous (*p* from *b + b*, *b + h* etc.); it is not impossible that it was their appearance which hastened the weakening of the old tenuous - at least it is certain that the two series are never confused' (1956, 289). Apart from clarifying his own position somewhat, Jackson's (1960) prickly restatement of 'orthodoxy' added nothing of significance to the argument but did prompt Greene (1966) to offer a more detailed evaluation of the structural implications of the two approaches that exposed a number of weaknesses and inconsistencies in Jackson's position. The latter's post-apocope date of 'the middle and second half of the sixth century' (*LHEB* 567) for this development was accepted by Greene (1956, 289).

For Greene, then, this second lenition applied after the loss of final consonants and/or syllables in British to postvocalic or postliquid voiceless stops that had been unaffected by the first lenition because at that time they had either been geminate or else preceded by a consonant that was subsequently lost or, in the case of *r* and *l*, non-leniting: e.g., **ehyo peNo-* > (1st. len.) **eyo beNo-* > MW *y ben* 'his head' but **ehyāh peNo-* > **e pen* > (2nd. len.) MW *y phen* 'her head', Lat. *corpus* > **corp* > MW *corf(f)* 'body', **Nerto-* (OIr. *ner*) > **Nert* > MW *nerth* 'strength', Lat. *bucca* > **bokkā* > **bok* > MW *boch* 'cheek', **wolk-* (OIr. *folc-*) > **gwolk-* > MW *golch-* 'wash'. The development *xt* > *yθ* seen in MW *seith* 'seven' < **sext* etc. is treated quite separately and dated to the late sixth or early seventh century by Jackson (*LHEB* 407-11) but seems so close to postvocalic and postliquid *t* > *θ* etc. on his chronology that a sequence *Vxt* > *Vyt* > (2nd. len.) *Vyθ* surely makes better sense, in which case *y* joins *r* and *l* and we can talk of a pan-British second lenition after any non-nasal sonorant. Certainly there seems to be no insuperable obstacle to a slightly later date (say, c. 600 A.D.) than Jackson's for *t* > *θ* etc.

After a liquid, voiced as well as voiceless stops changed into the corresponding fricatives in British: e.g., MW *twryf* 'tumult' (Mod. *twrf*) < **turv* < *turb* < Lat. *turba* (cf. *corff*), MW *bard* 'bard' (Mod. *bardd*) < **barð* < **bard* < **bardos* (OIr. *bard* /bard/; cf. *nerth*), MW *hely* 'hunt(ing)' < **hely* < **s/helg* < **selgā* (OIr. *selc/g* /selg/; cf. *golch-*). Jackson (*LHEB* 433 and 466) connects this with lenition of *b*, *d*, *g* > *v*, *ð*, *γ*, dated by him to around the middle of the fifth century in British (as Irish). Since, however, it now appears that this lenition of *b*, *d*, *g* after a vowel is at least as old as Insular and probably as old as Proto-Celtic (4.1-2), the two phenomena must be separated for the simple reason that Old Irish shows clear reflexes of *b*, *d*, *g* > *v*, *ð*, *γ* between vowel and resonant but, as indicated by the examples just

given, displays no such lenition after a liquid (or nasal). That being so, there is an obvious parallelism between the treatment of voiceless and voiced stops after a liquid in the two branches (OIr. RT/D vs. Brit. RΘ/Ð), as Greene pointed out: 'I think the evidence points to the continuants having been weak and the stops strong. If we take first the groups where the stops are voiced, this is the case for Irish, but not for the Brythonic languages (Ir. *cerd*, W. *cerdd*, etc.), and Sommerfelt takes it that Irish is the innovator here.....; what seems to me much more cogent is the fact that, in the case of similar clusters with unvoiced stop, (i) the stops in both Goidelic and Brythonic were originally fortes and (ii) in Welsh and Breton they normally appear as spirants. I have already suggested (*Celtica* iii 289) that this development was a weakening of the same type as the earlier lenition of the mediae in the same position; to object to this, as does Bachellery (*Etudes Celtiques* viii 253) on the grounds that lenition realized as spirantization is unknown in Brythonic is simply to beg the question' (1960, 103). Despite this perceived parallelism, Greene nevertheless ascribes both developments to different chronological stages in line with Jackson's overall scheme.

In Harvey's opinion 'the asymmetry lay in the fact that whereas the voiced consonants subsisted in both stop and spirant phonemes (for example, /d/... versus /ð/...), unvoiced consonants existed phonemically only as stops... in Brythonic at this time - in other words, there are *ts* but no *θs*... There was therefore the opportunity, without disturbing the distribution of phonemes, for the voiceless stops to become spirantised at a purely realizational level, as prompted by the phonetic environment. It is to be noted that in practice this change appears to have taken place in all environments except absolute anlaut' (1984, 97-8). Harvey goes on, albeit without acknowledgement, to elaborate Greene's suggestion that the production of new voiceless stops by provection may have played a significant role on the grounds that 'it will have been systematic pressure from the new voiceless stops... which caused the *old* voiceless consonants to select their spirant variants in opposition, and so achieve the status of spirant phonemes. The fact that the old voiceless consonants did not undergo spirantization in absolute initial position can now be explained in the light of this view, since it was in that position alone that no new stops arose by provection' (1984, 99).

In effect, this analysis brings the structuralist concept of 'functional load' (Bynon, 1983, 87-9) into play by arguing that spirantisation (or, to use the term preferred in this section, second lenition) only occurred where the distinction between stop and fricative had no functional load, i.e. in the voiceless as opposed to the voiced series. However, it takes no account of the fact that voiced as well as voiceless stops became fricatives after a liquid, a deficiency that led Russell to recommend 'a slight alteration in our perception of the changes involved. It is assumed by Jackson and others that spirantization can

only affect unvoiced stops because that is where it is perceptible, that is, that the spirantized version of *-t-*, namely *-θ-*, is distinct from the lenited form *-d-*. On the other hand, the spirantised forms of *-d-* and *-m-*, that is *-ð-* and *-μ-*, would have been identical with the lenited forms. A simpler view, therefore, would be to take all of them as representing spirantization of the unlenited stops and resonants' (1985, 54). This, however, proves to be a case of swings and roundabouts. 'In conclusion, then, it may be supposed that the phenomenon of spirantization after *-r-* was not confined to voiceless stops but that it affected all spirantizable consonants after *-r-*. As such, it may be distinguished from the spirantization in other environments' (Russell, 1985, 56). Put thus, the choice is between either a single process affecting both voiced and voiceless stops after liquids but divorced from spirantisation of voiceless stops after a vowel or else a single spirantisation of voiceless stops that leaves the partially parallel change of voiced stops to voiced fricatives out on a limb, since the lack of this change in Irish makes it impossible to associate it with a much earlier pre-separation lenition of voiced stops between vowel and sonorant.

In terms of overall economy the former approach favoured by Russell has no obvious advantage over the latter analysis broadly advocated by Jackson, Greene and Harvey. A fully integrated second lenition capable of covering both areas would clearly be desirable and in this respect it is surely significant that, since *b, d, g, m* had only been lenited to *v, ð, γ, ̃v* after a vowel, the voiced fricatives had not yet come into existence after a liquid (or nasal) sonorant, whereas after a (sonorant) vowel there was a phonemic opposition between voiced fricatives (from voiced stops by 4.2) and voiced stops (from voiceless stops by the first British lenition). That being so, the second British lenition can simply be stated to have turned a stop into a corresponding fricative after a sonorant c. 600 A.D. wherever the feature [\pm fricative] had no functional load, i.e. without restriction in the case of a voiceless stop but only after *r* or *l* in the case of a voiced stop, including *m*. A unitary process can thus be posited.

Jackson and Russell seem to assume that *l* plus dental behaved differently but the most convenient way of accounting for alternations of the type MW *athraw* 'tutor' (OC *altrou*; cf. OIr. *altram(m)* 'fosterage'), *kyueillt* 'friend' (< **kom-alt-yo-s*; OIr. *comaltae* 'foster-brother'), pl. *kyueillon* 'friends' is to posit the sequence *lt* > *lθ* in the normal way, loss of *l* before *θr*, intervocalic assimilation of *lθ* > *lh* > *ll* /4/ and finally delenition of the dental where it remained after homorganic *l*, as in Irish (cf. *VKG* I 414; Greene, 1960, 104). The parallelism with the behaviour of nasal plus homorganic stop is striking: e.g., MW *kathyl* 'song' < **kanθl* (OW *kenth(i)liat* 'singer') < **kantlo-* (OIr. *cétal*), *ym penn* /ə m^hen/ 'in the end' (Mod. *ym mhen*) < **ImfeN* < **ImpeN* < **ImpeN-*, *hanner* 'half' < *hanher* < OW *hanther* < **hanter* < **s/han-tero-*, *cant* 'hundred' < **kanθ* < **kanto-*. The derivations here are in line with Pedersen's conclusion 'that the development $\eta k, nt, mp > \eta x, n\beta, mf$ is

Common British; *x*, *þ*, *f* were undoubtedly also present in word-internal position in Corn. and Bret.; however, in accordance with the law of homorganic delentition to be discussed in a following chapter these fricatives were bound to be changed back to stops after the homorganic nasal; the spirant pronunciation was preserved only when the nasal was lost. This reversion is not, moreover, a specifically Corn.-Bret. phenomenon; W. final *-ŋk*, *-nt*, *-mp* as well are not the retained pre-Celtic clusters but have been changed back from *-ŋx*, *-nθ*, *-mf*. The difference between internal and final position does not reside in the failure of spirantisation to take place in auslaut but in the development of the spirants a stage further in inlaut than in auslaut. The development was certainly 1) *-ŋx-*, *-ŋx* 2) *-ŋh-*, *-ŋx* 3) *-ŋh-*, *-ŋk* etc.' (*VKG I* 150). Needless to say, the last three sentences refer to Welsh only.

This impressively coherent account has been rejected as 'an extra-ordinarily complicated theory' by Jackson (*LHEB* 499). While he is quite right to object to Pedersen's gratuitous assertion that a similar spirantisation and reversion occurred in Irish, Jackson's alternative posits general retention of *-mp-*, *-nt-*, *-nc-* in British followed by three quite separate developments (*LHEB* 501-2), namely an internal and sandhi development to *m(m)h*, *n(n)h* and *ŋ(ŋ)h* in Welsh, a post-nasal gemination of initial voiceless stops accompanied by loss of the nasal leading to spirant instead of nasal mutation in Cornish and Breton (*LHEB* 639-41), and direct *ntr/l* to *thr/l* in Welsh. Of this it can only be said that Jackson's view of what constitutes simplicity and economy here is at variance with that of the present writer. Jackson's (*LHEB* 502-3) objection that there is no sign of spellings indicating *nθ*, *nx* in the meagre pre-seventh-century inscriptional and placename record carries no weight and even his observation (*LHEB* 503-4) that Old Welsh sources of the eighth to eleventh centuries have either *nt*, *nc* or sometimes *n(n)*, *c(g)* 'except one case of *mph* and three of *nth* which are differently explained below' (*LHEB* 502) is far from conclusive since those same sources often use *p*, *t*, *c* to write definitely spirant /f/, /θ/, /x/ (I.4.4). For instance, little can be deduced from spellings such as *pimp* 'five', *cant* 'hundred' in the ninth-century Ox. 1 (*LHEB* 47) when /parθ/ 'part' is only spelt *part* there. Moreover, Ox. 1 *pimphet* is the only example of a reflex of internal *mp* in Old Welsh sources and Jackson's rejection of the possibility that this and Ox. 1 *hanther* 'half' represent actual or erstwhile /pɪmfed/, /hanθer/ respectively is quite arbitrary. It thus seems most likely that the nasals should be added to the list of sonorants responsible for the second British lenition of stops to the corresponding fricatives around the end of the sixth century A.D.

4.6 It follows from 4.1-5 above that the Irish and British lenitions as normally understood are the outcome of three prehistoric phases affecting different classes of consonant between a vowel and a sonorant (or the word boundary): (1) a Proto-Celtic lenition of voiced stops and probably *m* to the

corresponding fricatives, (2) an Insular Celtic lenition of *s* to *h* (and probably a strengthening of *r*, *l*, *n* in certain contexts), (3) separate Irish and British lenitions of voiceless stops to the corresponding voiceless fricatives and voiced stops respectively.

The three-tier process envisaged here is no more remarkable than the various stages of lenition obtaining in Spanish. An initial stage entailing postvocalic lenition of voiced stops to voiced fricatives, lenition of voiceless to voiced stops and simplification of geminates in that order or more or less simultaneously had been followed by a further stage involving loss of post-vocalic /ð/, /ɣ/ (< Lat. /d/, /g/) and lenition of postvocalic /d/, /g/ (< Lat. /t/, /k/) to /ð/, /ɣ/ either in that order or roughly concurrently by the time of Old Spanish (see Penny, 1991, 65-75): e.g., Lat. *sedere* > **seðer* > Sp. *seer* 'sit', Lat. *catena* > Sp. *cadena* /kaðena/ 'chain', Lat. *gutta* > Sp. *gota* 'drop'. In the case of the labials postvocalic /b/ < /p/ and /v/ < /b/, /v/ remained distinct in Old Spanish and were not merged as /v/ until later (Penny, 1991, 84-6). Allophonic alternation between [b], [d], [g] and [v], [ð], [ɣ] is the only one operating across the word boundary in Modern Spanish. Finally there are more recent dialectal tendencies (particularly in Southern Spain and South America) to weaken final *-s* to *-h* and then often, in pausa or (in E. Andalusia) everywhere, to -Ø (Penny, 1991, 93-5).

The postulation of several chronologically diverse stages of lenition in different varieties of Celtic thus seems quite reasonable typologically and it appears that the morphophonemic mutation known as lenition in both Irish and British is the culmination of three separate prehistoric waves. Although it was a similar process, the second British lenition had a different distribution because it came about after the (morpho)phonemicisation of the first three lenitions and so constitutes a separate spirant (and nasal) mutation synchronically.

As far as the genetic implications of lenition are concerned, that of *b*, *d*, *g*, *m* to *v*, *ð*, *ɣ*, *Ń* has none by virtue of probably being pan- and Proto-Celtic, while that of the voiceless stops is unhelpful because its different effects in Irish and British give no grounds for regarding it as chronologically prior to their separation. On the other hand, Irish and British do agree with each other and apparently disagree with Continental Celtic in their treatment of *s* and quite likely of *l*, *r*, *n* with the result that the developments in 4.3 above can be plausibly ascribed to Insular Celtic. As intimated in 4.3, the operation of lenition across the word boundary in close groups is a feature so far only demonstrated for Insular Celtic, although it must be admitted that an *argumentum ex silentio* on this point regarding Continental Celtic is very weak. The (morpho)phonemic status of lenition under similar circumstances in Irish and British is generally held to be based upon relatively late (roughly fifth century A.D.) developments in the separate prehistories of both. However, in the likely event that postvocalic *-s* > *-h* had occurred as early as Insular Celtic,

the possibility arises that Insular Celtic was characterised by alternations similar to those just alluded to in Andalusian and some other varieties of Spanish between retention of /-h/ in contexts such as in pausa or before a vowel and loss before or assimilation to certain following consonants such as nasals, liquids or voiced stops. If so, the fortis/lenis opposition would have acquired morphophonemic relevance as early as Insular Celtic in certain contexts.

5.1. EVIDENCE FOR INSULAR CELTIC. Although, as intimated by Schrijver (4.1), a major part of the positive case for Insular Celtic as a separate genetic node in the development of Irish and British relates to verbal morpho-logy (McCone, 1992, 35-9), there are nevertheless also a number of quite circumstantial phonetic agreements exclusive to the two, particular significance attaching to those which logically constitute a precondition for far-reaching morphological developments apparently unique to the Insular Celtic languages.

5.2 Proto-Indo-European *z* was a mere allophone of *s* before a voiced stop and appears to have undergone no significant change in Continental Celtic. However, it became a voiced dental fricative *ð* in Insular Celtic: e.g., Gaul. *Tasgius*, *-tasgus* etc. but OIr. *Tadg* 'Tadhg' < **Tazgos* (Koch, 1992); OIr. *net* /ned/ 'nest', MW *nyth* < Brit. **nitt-* < **niθt-* (cf. Greene, 1967, 102: 'as in Irish, a cluster containing an unvoiced consonant will be unvoiced') < **niθd-* (presumably an early instance of the junctural devoicing discussed by Greene, 1967, 103) < IC **niðdos* < IE **nizdos* (Lat. *nīdus*, OE *nest* etc.).

The change *s-* to *h-* at the beginning of a proclitic and subsequent loss of this *h-* before a vowel is so far only securely attested in Irish and British, as indeed is the proclisis of copula, prepositions etc. that must have preceded it: e.g., OIr. *it*, OW *ynt* 'they are' < IC **inti* < PC **sinti* < PIE **h₁s-enti*; adj. (stressed) OIr. *samail*, MW *haul* '(a)like' < I/PC **samalis-* (cf. Lat. *similis*) but prep. (unstressed) OIr. *amal*, MW *ual* 'like, as' < IC **aṽalih* < PC **samali-*. That said, the first word of Gaulish *indas mnas* (Larzac 1^b6-7; *Lam.* 162) would, if cognate with the OIr. nom.-acc. pl. fem. article *inna* < **indās* < **sindās*, display the same loss of *s-* in proclisis (Koch, 1996, 39). Similarly *onda boca* (2^a3 etc.) might contain a proclitic variant of the demonstrative **sondo/ā-* probably underlying non-proclitic OIr. *sund* 'here' (< **sondū*), MW masc. *hwn*, fem. *hon*, pl. *hyn* 'this, these'. However, proclisis of the copula logically depends upon its being placed before its predicate and the generalisation of this position in turn seems best viewed as part of an overall Insular Celtic shift to regular VSO order with clause-initial verb (McCone, forthcoming b). There is thus potentially conflicting evidence regarding the date of *s-* > Ø in proclitics. A possible avenue of escape would be to reconstruct PC **indo/ā-*. An OIr. form like *frissin* 'towards the' would continue **writs-ind-* quite regularly, OIr. *forsin(d)* 'on the' must anyway be analogical as **forrin(d)* should

have resulted from **wor-sind-*, and OIr. *issin(d)* 'in(to) the' could have been triggered from *i* by a relationship such as that between *fri* and *frissin* any time after the loss of final *-n* and *-h* (IV.4.2). Some hybridization between **indo/ā-* and **sondo/ā-* may also have occurred.

The assimilation of dental plus *s* to *ss* apparently goes back as far as Insular Celtic (but no further; II.2.2): e.g., OIr. *ís*, MW *is* 'under' < IC **īssu* < PC **īt-su* < **pēd-su* 'at the feet' (< PIE loc. pl. **ped-su* with lengthening spreading from nom. sg. **pōs*? Cf. αδεσ · πόδεσ 'feet' at Hesychius A 1067 arguably reflecting a Galatian *vel sim.* nom. pl. *ādes* < **pōd-es* for PIE **pod-es* as a result of similar analogical lengthening?).

Loss of *s* between *r/l/x* and another consonant must have preceded the assimilation of *st* > *ss* found in both Irish and British but probably not in Gaulish and certainly not in Celtiberian (Schrijver, 1995, 402-3): e.g., OIr. *arc-u*, MW *arch-af* 'I ask' < **ark-* < **arsk-* (II.3.2) or OIr. *tart* 'thirst' < **tartus* < **tars-tu-* < PIE **tr̥s-t-* (OE *þurst*, Skt. *tr̥ṣṭa-* etc.); OIr. *carais*, MW *caras* 'loved' < **karass-* < **karast(-)*; OIr. *glas*, MW *glas* 'green, blue, grey' < IC **glasso/ā-* < PC **glasto/ā-* (Gallo-Lat. *glastum* 'wood'); OIr. *foss*, MW *gwas* 'servant' < **wosso-* < **wo-sto-* (but Gallo-Lat. *-uassus* too in this case) < IE **upo-sth₂-o-* 'standing under/by'. Apparent British exceptions such as OW *clust* = OIr. *clúas* 'cluas' < IC **klōs-(s)tā* < **klow-s-(s)tā* or OC *Un-gust*, OB *Uur-gust* = OIr. *Óen-gus*, *Fer-gus* < IC **-gus-(s)tus* < (cf. Lat. *gustus* 'taste' etc.) have been dealt with by Schrijver (1995, 406-15), who ascribes Brit. *-ss-* and *-st-* (Ir. *-ss-* throughout) to IC *-st-* and *-sst-* respectively. If so, only *-st(-)* was assimilated to *-ss(-)* in Insular Celtic and *-sst(-)* became *-st(-)*, which was retained in British and only assimilated to *-ss(-)* in the separate prehistory of Irish. Change of proclitic *es(s)* to *is(s)* some time after this might be the reason for OIr. *is*, MW *ys* 'is' < **issi(-)* < **essi(-)* < **esti* but the Welsh form would also derive straightforwardly from **essi(-)* and its Irish counterpart might rather owe its *i* to analogy (McCone, 1995, 126 and 130-1).

The fact that assimilation of *Vst* to *Vss* almost certainly occurred no further back than Insular Celtic is of crucial importance because, as has been conclusively demonstrated by Watkins (1962, 174-80), this development was a necessary prerequisite for the establishment of an *s*-preterite with a morpheme *-ss-* throughout that is so far unattested outside Insular Celtic and was spread from a 3sg. *-V-ss* (< *-V-s-t*) by reanalysis of this as *-V-ss-Ø* or stem plus zero ending. Corresponding generation of a *t*-preterite from 3sg. *-R-t-Ø* (< *-R-s-t*; Watkins, 1962, 156-74) is thus also likely to be an Insular Celtic phenomenon, although the essential phonetic basis of loss of *s* between certain consonants cannot as yet be proved to have been confined to Irish and British.

5.3 Positing a change of unstressed *e* to *i* before *-s-* plus vowel neatly accounts for a number of otherwise problematical forms: e.g., OIr. 2sg. abs./

conj. *biri*, *-bir* 'you carry' < **birihi*, **birih* < IC **berisi-*, **beris* < **berisi* < PIE **b^her-e-si*; 2sg. abs. *it* 'you are' < (pronominal *-t* +) **i* < **ihi* < **isi-* < **isi* < **e-si*; 2pl. abs. *adi* 'you are' < **etihi* < **e-tisi* < **e-tesi*; *s*-stem dat. sg. *nim* 'heaven' < **niŵ-ih* < **neŵ-is* < **nem-is-i* < loc. sg. **-es-i*, nom.-acc. pl. *nime* 'heavens' < **niŵ'eya* < **niŵiya* < **neŵiha* < **neŵisa* < **nemesa* and similarly MW *tei* 'houses' < **teyi* < **teyiha* < **teyisa* < **tegesa* (cf. Schrijver, 1995, 390-3). Since only stressed *e* was liable to Primitive Irish raising before *i* in the following syllable by IV.2.1(a), the 2sg. of the proclitic copula, which has been discussed in detail elsewhere (McCone, 1995, 123-6) is important because it shows that this earlier change to *i* before *s* affected unstressed rather than merely non-initial *e*. Although *e* had become *i* in hiatus before a back vowel in Primitive Irish (IV.1.4), British *chwaer* 'sister' < **hweīr* < **swesūr* disproves stressed *esV* > *isV* in Insular Celtic (II.2.1). OIr. *indé* 'yesterday', consisting of the article plus stressed *dé* < **des* < **gdes* < **g^hōes* (Gk. χθές), could owe its retained *e* either to the stress or to the lack of an immediately following vowel, the latter factor being responsible for cases like OIr. *ad-ro:soid* 'stopped' < **sod-ess* (< **-e-s-t*), *coin* 'dogs' < **kon-es* (IV.2.6) rather than the **suid*, **cuin* with raising of stressed *o* to *u* (IV.2.1b) that should have resulted from **sodiss*, **konis*.

If *es* to *is* occurred only when the vowel was unstressed and the *s* was followed directly by another vowel, it will not only have antedated the Insular Celtic apocope of *-i* first posited by Cowgill (1975) but also seems to imply that Insular Celtic had essentially the same type of initial demarcative word stress as Old Irish, a position advocated by Schrijver (1995, 17-20) and others on the strength of different considerations. In that case the change in British to an accentual pattern defined in relation to the end of the word would be no more surprising than a similar shift away from earlier word-initial stress in Latin (Palmer, 1954, 211-3).

5.4 In the wake of Cowgill's (1975) celebrated article it is now more or less generally agreed that OIr. present conjunct forms such as 3sg. *-beir*, 3pl. *-berat* < **beret*, **beront* ultimately derive by means of an early apocope of **-i* from **bereti*, **beronti* with primary endings of the normal type inherited from PIE. Since there are survivals of the absolute/conjunct dichotomy in early Welsh poetry (*GMW* 119), there can be no doubt that the apocope of **-i* that triggered it is at least as old as Insular Celtic, as Cowgill saw. Even if, as seems quite likely, apocope of *-i* is found after *t* at least in Celtiberian, orthographical considerations make it extremely probable that this development was a very recent one postdating the introduction of the Iberian script, as argued in I.3.5, and it is possible that Latin influence played a role. That being so, this process can hardly be connected with the Insular Celtic apocope of **-i* and this pretty much excludes a Proto-Celtic date for loss of **-i*, whether

general or restricted. If, as argued elsewhere (McCone, 1978), Old Irish consonant-stem short datives of the type *oíntu* 'unity' are to be derived from **oinothūθ* < **oinotūt* < (old loc.) **oinotūti* by general early apocope of **-i*, then consonant-stem (*Lam.* 61) dat. (old loc.) *μαγουρειγι* (*RIG* G-121), *ατεμαγουτι* (G-122), *ΕΠΑΘΑΤΕΧΤΟΡΙΓΙ* (L-6) conclusively demonstrate the absence of this development in Gaulish and 1sg. *uediiumi*, *pissiumi* (both Chamalières), *ιμμι* (G-13; *Lam.* 62) offer further support. There can thus be little doubt that this apocope of *-i* and the highly circumstantial absolute/ conjunct inflectional dichotomy triggered by it were both confined to Insular Celtic as Cowgill suspected.

Whereas Cowgill (1975) maintained that Insular Celtic loss of *-i* sometimes did and sometimes did not occur under still obscure circumstances reminiscent of Italic, the present writer went on to argue (McCone, 1978) that the methodologically preferable postulate of a general apocope of *-i* was fully in accord with the available facts, the only serious obstacle being *inn-uraid* 'last year' allegedly from unapocopated **eruti* cognate with Gk. *πέρυσσι*. This difficulty disappeared with the realisation (McCone, 1992, 36, n. 108) that the form *inn-* of the article in the earliest attestation (Wb. 16^c14) strongly indicated an origin as an acc. **eruten* or rather **aruten* (with **ar(e)* plus acc. for petri-fied *er* plus loc./dat.; cf. IV.2.3 and V.5.4) analogically generated from inherited dat. **erut(i)* in accordance with the normal dental-stem pattern.

The neat blanket apocope of *-i* thus deduced has recently been questioned by Schrijver (1994, 159-65), who proposes to restrict its operation to position after a voiceless stop. The fulcrum is provided by his derivation by means of a postulate of *-t* > *-s*, of OIr. *fri* 'against', *la* 'with' < **wris*, **les* < **writ*, **let* < **writi*, **leti* but this is vitiated by its failure to account for a single form with suffixed pronoun straightforwardly apart from the isolated and allegedly archaic 3pl. *lethu* 'with them' in the Book of Armagh (Schrijver, 1994, 169). In view, however, of the regular occurrence of *leu* in the Glosses, this seems more likely to be a solitary early example of the spread of 3pl. *-thu* well attested in Middle and Modern Irish. This virtually hundred-percent failure rate tips the scales firmly in favour of the appreciably more efficacious preforms **writ(s)*, **let(s)* proposed by Russell (1988, 118-23; note that byeforms without *s* could have been extrapolated from cases where *s* was lost regularly before certain consonants).

As far as short consonant-stem datives are concerned, Schrijver's view entails accepting the explanation of *inn-uraid* just offered as well as the derivation of *oíntu* etc. above from an apocopated **-i* locative but deriving the *s*-stem type *t(a)ig* from an unapocopated **tegesi* by means of an *ad hoc* postulate of intervening **teg-ei* > **teg-ī* (as opposed to the possibility of **gdesi* > **des* 'yesterday' envisaged by Schrijver, 1995, 390) and tracing the *n*-stem

dat. type *toimte* 'opinion' back to an archaic endingless locative **tõvediyon* alleged to have coexisted for several millennia with an elsewhere productive *i*-locative held to underlie an OIr. *n*-stem long dat. like *toimtin* from unapocopated **tõvediyoni*. This explanation is too uneconomical to be accepted in the absence of stronger arguments than those actually adduced. Indeed, the endingless locative looks like a good candidate for Schrijver's own dictum that, 'although the incidental survival of isolated archaisms certainly cannot be ruled out, one must be careful, not to say reluctant, in positing them, and first explore different possibilities' (1995, 450). More to the point, in the unlikely event that both *toimte* (13 exx. of this type in Wb.) and *toimtin* (9 exx.) were redundant variants inherited right from PIE, the creation of yet a third dat. sg. *toimtiu* (9 exx.) identical with the nom. sg. on the model of dental-stem nom./dat. sg. *oĩntu* etc. in early Old Irish would be quite extraordinary just when *toimtin* and the new dat. type *oĩntaid* barely attested in Wb. were about to take off as the overwhelmingly preponderant dat. sg. forms in Ml., where there is a solitary example of the *toimtiu* type, a mere seven of the *toimte* type and no less than sixty two of the *toimtin* type (McCone, 1978, 26-7). If, on the other hand, the only inherited dat. sg. was *toimte* from apocopated **tõvediyon* < **-oni*, analogical creation of a dat. *toimtiu* identical with the nom. would be quite natural before the acc. sg. *toimtin* was pressed into service as a rapidly expanding new dat.

There can, then, be little doubt that apocope of **-i* occurred across the board in Insular Celtic and cannot be projected back to Proto-Celtic. If, as seems virtually certain, this development was a *sine qua non* for the highly circumstantial creation of separate absolute and conjunct verbal inflections shared by Irish and British, we are left with a very powerful argument for Insular Celtic as a separate genetic node.

5.5 There is, of course, an ongoing debate about precisely how the absolute endings were differentiated from the mostly apocopated conjunct set but this is not the place for detailed discussion of this question, which has been aired at length elsewhere (e.g., Cowgill, 1975; McCone, forthcoming b). Suffice it to say that, whereas making the shielding of *-i* from apocope by a following enclitic the basic trigger for a new absolute set (McCone, 1979, 1982 and 1985b) has no further phonological ramifications, alternatives (most recently Schrijver, 1994, 180-7) involving generalisation of an alleged enclitic particle **es* (< **et* < **eti* according to Schrijver) or the like not only add a number of otherwise quite unnecessary phonological rules but also call for quite arbitrary assumptions about exactly when various combinations involving this phantom element came into being. Even so they are still beset by serious internal inconsistencies (e.g. Schrijver, 1994, 169; McCone, 1979, 4-10; 1985b, 223-4 and 269-70). It may be noted that the derivation by Cowgill and others of the 2pl. abs. type *beirthe* 'you bear' from **bereθēh* < **beretes-es*,

which necessitates rejection of unstressed *es* > *is* in 5.3 before a front vowel at least (Schrijver, 1995, 387-8), is simply disproved by 2pl. copula *adi* 'you are' < **eθih-* < **etes-* (5.3), which undoubtedly retains the original 2pl. abs. ending (McCone, 1995, 124-6) and must have undergone *es* > *is* regardless of whether what followed was primary *-i* or an alleged particle **es*. On the whole, the effects of any fully elaborated version of the particle theory upon the historical phonology of Insular Celtic and Primitive Irish are rather like those of certain types of computer virus upon a hitherto smoothly running prog-ramme. Occam's razor provides the necessary surgery and the putative particle will have no place in what follows.

5.6 Loss of *w* after an initial dental is attested in both Irish and British: e.g., OIr. *dorus* 'door', OB *dor*, OC *darat* < **dwor(-)* vs. Gaul. *Dvorico* < IE **d^hwor(-)* (Skt. *dvar-*, Gk. θύρα, OE *dor*). The same development also occurs at the beginning of an internal syllable (/ = syllable boundary): e.g., OIr. *art* 'stone' < IC **artā* < PC **ar/twā* (Gaul. *artuas* 'stones'; cf. Lat. *artus* 'limb'; PIE **h₂er-* 'fix'), OIr. *ard* 'high', MW *ard* < IC **ardos* < PC **ar/dwos* (Gaul. *Arduenna*; cf. Lat. *arduus*) vs. OIr. *fedb* 'widow', MW *gwedw* < CC **wid/wā* (cf. Lat. *vidua*, OE *widow*). As can be seen from the relevant examples, this was clearly not a Gaulish phenomenon and so cannot be projected any further back than Insular Celtic.

5.7 The elision of *o* in hiatus before another vowel in the same word might be ascribed to Insular Celtic on the strength of examples such as OIr. *-ric* 'reaches', W *rhyng-u* < **r(o)-ink-*, OIr. *comrac* 'encounter', MW *kyfranc* < **kom-r(o)-ank-o-*.

Final *-oi* was probably monophthongised to *-ī* in the prehistory of British as well as Irish and this can then be considered an Insular Celtic change: e.g., OIr. *baird*, MW *beird* 'bards' < **bardī* < **bardoī* (Gaul. *-oi*; II.5.4). If so, it is most conveniently formulated as *-oi/-āi* > *-ai* > *-ī* on the assumption that the *a* < *o* in final syllables seen on Ogam inscriptions took place in Insular Celtic (IV.1.4). This development did not, of course, apply to Continental Celtic, which offers plentiful instances of *-os*, *-om* or *-on*.

Whereas the system of short vowels inherited from Proto-Celtic (II.5.1) would seem to have undergone no significant change in Insular Celtic, a gap in the system of long vowels (II.5.5) was filled by the monophthongisation of *ow* > *ō*. Since this occurred in the prehistory of both Irish and British but not in Celtiberian or (apart from sporadic later instances) Gaulish, it may well be an Insular Celtic development (McCone, 1992, 19): e.g., OIr. *slúag*, *slóg* 'host', MW *llu* (VI.2.1a) < **slōgos* < **slowgos*. Whatever the date of this process, which is sufficiently natural to have come about independently in the two branches, it resulted in the following symmetrical system matching that of the corresponding short vowel phonemes (II.5.1):

ī	ū
ē	ō
ā	

5.8 Considerations such as the foregoing make a common intervening Insular Celtic stage in the development of Irish and British highly probable and the Gallo-British alternative a good deal less likely. On present evidence the precise position of Gaulish cannot be determined with confidence. It might share a special Continental Celtic node with Celtiberian, a separate pre-Insular node with Insular Celtic or perhaps constitute a distinct third branch. Allowance is made for all three possibilities in the diagram below summarising the findings of this chapter.

