
 CHAPTER FOUR

Primitive Irish

1.1 EARLY DEVELOPMENTS. The following are typical examples of the loss or truncation of final syllables in Irish (and independently British) as compared with Gaulish or Celtiberian: OIr. *máthair* 'mother' = Gaul. *matir*; OIr. *fer* 'man' (MW *gwr*) = Celtib. UIROS; OIr. *fine* 'descendants' (MB *gouen*) = Gaul. UENIA (McCone, 1993); OIr. *gaib* 'take!' = Gaul. *gabi*; OIr. *-riug* 'I direct' = Gaul. *regu*; OIr. *oll* 'much' = Gaul. *ollon*; OIr. *búaid* 'victory' (MW *bud*) = Gaul. *boudi* (McCone, 1996, 110 and 113); OIr. *mná* 'women' = Gaul. *mnas*; OIr. *rí* 'king', dat. sg. *ríg* = Gaul. *-rix*, dat. sg. *-rigi*; OIr. *sechtmad* 'seventh' (MW *seithvet*) = Gaul. *sextametos*; OIr. *dechmad* 'tenth' (MW *degvet*) = Gaul. *decametos* (nom. sg. m.), Celtib. **tekametam** (acc. sg. f.); OIr. *cét* 'hundred' (MW *cant*) = Celtib. **kantom**. Containing as they do examples of retained as well as of lost or truncated final syllables, Ogam inscriptions indicate a date in the fifth and sixth centuries for a number of cataclysmic changes responsible for the transformation of Irish from a basically old Celtic typology inherited from Proto-Indo-European to a rather different system in which the modification of initial and final consonants as well as of internal syllables played a key morphological role as they have continued to do ever since: e.g., Og. MAQI (OR MAQ, MAC) = OIr. *maic* /mak'/ (gen. sg. of *mac* 'son'), Og. INIGENA = OIr. *ingen* 'daughter', Og. DEGOS (OR DEGO) = OIr. *Dego* (gen. sg. of *Daig*), Og. COMMAGGAGNI (OR COMOGANN) = OIr. *Comgá(i)n* /koŋγān^(?)/ (gen. sg. of *Comgán*). The details must now be examined.

1.2 An essential precursor of these developments appears to have been the lenition of a single postvocalic voiceless stop (III.4.4) to the corresponding fricative and then the weakening of a final fricative or *-s* to *-h*, whence PC **wiros* > PrimIr. **wirah* (> OIr. *fer* 'man') or PC **bereti* > IC **beret* (III.5.4) > PrimIr. **bereθ* > **bereh* (> OIr. *-beir* 'bears'). This weakening must have been preceded by the assimilation of any remaining *-(s)st(-)* (III.5.2; e.g. IC **klōs(s)tā* > PrimIr. **klō(s)sā* > OIr. *clúas* 'ear') and of *-xs(-)* to *-ss(-)* (> *-s* in auslaut?) in order to account for PIE **sweks* > IC **swexs* (MW *chwech*) > PrimIr. **swe(s)s* > **sweh* > OIr. *sé* 'six' or PC **rīx-s* > PrimIr. **rī(s)s* > **rīh* > OIr. *rí* 'king'.

It must also have been preceded by early syncope of a short vowel between two dental fricatives, two *s*'s or two *r*'s in a final syllable, if the previous syllable was unstressed too (McCone, 1981, 35-41). Thus OIr. *reithid*, *-reith* 'runs' < **Reθeθi*, **-Reθeθ* (stressed **Reθ-*) vs. *do:im-thi-ret* 'serves'

< *to amb'-aθe-reθθ < *-reθeθ (unstressed *reθ-), OIr. *guidid*, -*guid* 'beseeches' < *g^weðiθi, *g^weðiθ (stressed *g^weð-) vs. *ar:ne-get* 'prays' < *are ne-γ^weðθ < *-γ^weðiθ (unstressed *g^weð-) or OIr. *do:berar* 'is given' < *to beror (stressed *ber-) vs. *ní:tabarr* 'is not given' < *-taveR < *-toverr < *-to-veror (unstressed *ber-). If one fricative was voiceless, the other was devoiced as well and the whole group was then delenited to *t(t)*, as in *are ne-γ^weðθ > *are ne-γ^weθθ > *are ne-γ^wet(t) > OIr. *ar:ne-get*.

The obvious explanation for the failure of a palatal consonant group to result from the lost front vowel by this (-θe/iθ > -θθ > non-pal. -t) as opposed to the main syncope (3.5, 5.3 and V.1.5) is that it predated the first palatalisation (3.2). This lack of palatalisation militates against Schrijver's (1992, 183) contention that a form like the verbal noun *cosaít* 'complaining' of *con:saidi* 'complains' might be ascribed to this same process by removing the restriction to final syllables prior to the main apocope in 4.3, whence *kosoiðiθu(h) > *kosoiðθu(h) > *kosoitu(h) (cf. MW *ky-hud-* 'accuse' with *LEIA C-199?*). In that case the outcome would surely have been OIr. *cosaít*, gen. **cosaíto* with a non-palatal instead of the palatal -t(-) clearly attested by *ML 127^c1 trim chosaít-se* (not -*sa*) 'through complaining of me', to say nothing of invariable ModIr. *casaoíd*. This difficulty can only be resolved by placing the development of this and a number of similar forms discussed elsewhere (McCone, 1981, 40-1) close to the main syncope (V.1.4).

1.3 Low back *a* would seem to have become low front *æ* before a nasal plus obstruent, a double or a final nasal by Primitive Irish at latest but very probably as early as Proto-Celtic (II.5.1), *ænn* (or -*æn#*) then becoming *enn* (or -*en#*) in Primitive Irish. Thus *ans/x* > *æns/x*, *ant/k* > *ænt/k*, *amb* > *æmb*, *and/g* > *ænd/g* and *ann*, -*am/n* > *ænn*, -*æm/n* > *enn*, -*en* exemplified by PC **bandnā* > **bænnā* (MW *bann*) > PrimIr. **bennā* > OIr. *benn* 'peak' and PC **tewtām* > **towtam* > IC **tōtæn* > PrimIr. **tōthen* > OIr. acc. sg. *túaith* /tuaθ'/ 'kingdom'.

The next stage was loss of a nasal before a voiceless consonant, a process accompanied by compensatory lengthening in the case of a continuant: e.g., PIE *g^hans- (> Skr. *hams-*, OE. *gōs* etc.) > PC **gans-is* > PrimIr. **gænsih* > **gēsih* > **gēs ī* > OIr. *géis* 'goose, swan'; **weydonts* 'telling, ordering' (OIr. *ad:fét* 'tells, relates') > PC **wēdons* > PrimIr. **wēdōs* > OIr. *fiado* 'lord'; **karants* 'loving' > (after PC -*ans* > -*ās* in II.2.4a) **karans* > **karæns* > **karēs* > OIr. *car(a)e* 'friend'; **tinxtiyū* > **tīxtiyū* > OIr. *tíchtu* 'coming' (vb. n. of *do:ic*); **ṅk-tu-* > PC **anx-tu-* > PrimIr. **ænx-tu-* > **ēx-tu-* > OIr. *écht* 'slaughter'. In the case of a stop, voicing ensued but the different outcome seen, for example, in OIr. *cét* /kēd/ 'hundred' < **kændan* < **kæntan* (MW *cant*) < **kantom* and OIr. *ind-* 'in(to)' < **ænde* (Gaul. *ande-*) < **ande* would defy explanation unless there was some difference between the nasal

element before the voiced stop and that before the voiceless one at the penultimate stage of these two derivations and others like them.

Three different approaches to this problem have already been discussed (III.4.4), the simplest being Greene's view that the nasal before a voiceless stop was lenis /n/ whereas that before a voiced stop was fortis /N/, the way thus being opened for **kæntan* > **kændan* > **kēdan* vs. unchanged **ænde*. Thurneysen's alternative (followed by McCone, *SnaG*, 77-8) that a vowel plus single nasal was converted into a nasal vowel before a voiceless stop, whence **kæntan* > **kæ̃tan* > **kēdan* > **kēdan*, in effect offers a different formulation of the contrast between a weaker and a stronger nasal before a voiceless and a voiced stop respectively. Its disadvantage is that both compensatory lengthening of a preceding vowel and voicing of a following consonant are perhaps more readily explained in terms of a nasal consonant than a mere nasalised vowel. The most straightforward approach seems to be to posit (a) voicing of a voiceless stop after /n/ (**kæntan* > **kændan*, **tonketah* > **tongetah*), (b) uncompensated loss of /n/ before a stop except after stressed [æ] and [I] (**tongetah* (MW *tynghet*) > **togetah* > **togetha* > OIr. *tocad* 'fortune') and (c) compensated loss of /n/ between [æ] or [I] (both > /ē/) and a stop (**kændan* > **kēdan*; OIr. *cét* 'hundred'). Although the possibility can hardly be ruled out, this scenario obviates the need to join Schrijver (1993, 33-5) in positing nasalisation of any preceding vowel before loss of /n/. However, it seems tempting to posit nasalisation of [æ] and [I] to [ẽ] before a nasal in order to explain the peculiar reflex in (c) as **kændan* > **kē̃dan* > **kēdan*. Further examples include PIE **h₂un-* (> Gk. α-, Lat. *in-*, OE *un-*) > PC *an-* (Gaul. *an-*, MW *an-*) > OIr. *é-* before *t, c* as in *é-cóir* /ēgōr/ 'unjust' < PC **æn-kowar-i-/-yo-* (MW *ag-kyweir*); PIE **h₂weh₁ntos* (> Lat. *ventus*, OE *wind* etc.) > PC **wēnto/ā-* > **wīnto/ā-* > **winto/ā-* (II.5.5; > MW *gwynt* 'wind') > PrimIr. **windā* > **widā* > **weda* (2.1a/c) > OIr. *fet* /fed/ 'whistle' (McCone, 1991b, 49-51); PIE **sent-* (> Got. *sinþs*) > PC **sint-us* (> MW *hynt*) > PrimIr. **sinduh* > **sēdu* > OIr. *sét* /sēd/ 'path, way'. In the uncertain event that Schrijver (1993, 41) is right to compare Toch. *A sont* 'road' and, tentatively, Skt. *sātu-* 'vagina' with their implication of a preform **seh₁ntu-* > **sēntu-* > PC **sīntu-* > **sintu-* > MW *hynt*, OIr. *sét*, then the explanation just proposed for OIr. *fet* 'whistle' would have to be abandoned.

There is no evidence for compensatory lengthening of unstressed [æ]/[I] before nasal plus stop, which may imply retention of the nasal until stage (c) above only when the preceding mid to low front vowel was stressed, perhaps because nasalisation of the vowel was confined to this environment. Hence such proclitic forms as 3pl. copula *it* < **idi* < **inti*, prep. *itar* 'between' < **ider* < **inter* (OW *ithr*, C *enter*). There are also a few problematical instances with

unlengthened stressed vowel (GOI 518-9) such as *ecor* 'arrangement' < **inkorah* (vb. n. of *in:cuirethar*; ModIr. *eagar*), *tecosc* 'instruction' < **t(o)-m-ko(m)-sk^w-an*, *do:ecmaing* 'befalls' < **to m-koĩ-inkeh* (ModIr. *teagmh-*), *do:ecmalla* 'collects' < **to m-koĩ-eLāh* or the stressed pronominal forms of *itar*, e.g. *etronn*, *etruib*, *etarru* 'between us/you/them' < **edro-Nah/-hweh/-hūh* < **Idro-* < **Intro-* (with preconsonantal liaison vowel as in dat. pl. *rīgaib* < **rīgobis* for **rīgobis* etc.?). Conceivably the following *o* (plus *r* or *m/ĩ*?) played a role in loss of the nasal at stage (b) rather than stage (c) but the precise con-ditioning remains unclear.

There is evidence that the development *nt/k^(w)* > *d/g^(w)* had been completed before the fifth century A.D. To begin with, Ogam inscriptions present two examples of a voiced stop in place of *n* plus voiceless stop, namely DECCEDDAS /dexēdah/ < gen. sg. **dekant-os* (cf. Gaul. δεκαπτ-) and TOGITAC /togĩθax'/ = OIr. gen. sg. *Toicthig* (nom. *Toicthech* 'Lucky') < **Tonketākī* (McManus, 1991, 84) and so far none of NT, NC or the like. Secondly, had Latin words such as *planta* (> MW *plant* 'children'), *ancora* been borrowed before this loss of nasality with concomitant voicing, OIr. **clét*, **écor* or the like should have resulted and not the actually attested *cland* 'family', *ingor* 'anchor'. The only plausible reason for substitution of PrimIr. *nd*, *ng* for Lat. *nt*, *nc* would seem to be the lack of native *nt*, *nc* in fifth-century Irish because these had already become *d*, *g* respectively (McManus, 1983, 60-1).

Voicing of *t*, *k* to *d*, *g* after a nasal occurred not only within the word but also across the word boundary in the case of syntactically close groups (cf. lenition in III.4.2-4). This ultimately gave rise to grammatical nasalisation as in PC gen. pl. **indoisom karantom* > PrimIr. **indoyhan karantan* > **indoya gareda(n)* > **indoy gared* > (V.2.3) **indē gared* > OIr. *inna carat* /iNA garəð/ (ModIr. *na gcarad*) 'of the friends'.

Alternations of the type *con:ic* 'is able' vs. prot. *-cumaing* (3pl. *-cumcat* with post-syncope loss of *ŋ* between *ĩ* and *g*), vb. n. *cumang*, *do:ecmaing* 'befalls', 3p. *do:ecmungat* are only explicable on the assumption that in an unstressed sequence *ĩVŋk* the nasal had its usual voicing effect to produce *ĩVŋg* but was not lost in the normal way thereafter, probably because it was strengthened to /ŋ/ under the influence of preceding /ĩ/ separated from it only by an unstressed vowel (note the normal development seen when *r* also intervenes in *con:ric* 'meets', prot. *-comraic*, vb. n. *comrac*). Schrijver (1993, 35-46) has argued that, whereas *int/k* (including < *ĩnt/k*, but see II.5.7) like *ænt/k* became *ēd/g*, *æntt/k* became first *ennt/k* (cf. *ænn* > *enn* above) and was then simplified to *ent/k*, after which an *ad hoc* Primitive Irish development > *int/k* > *id/g* is invoked to justify a derivation of *-ic* < **en(n)keh* < **ænnket(i)* < **annk-* < **ŋnk-* < **h_{2/3}n-n-k-*. The obvious objection is that, if *ennk* was simplified to *enk* early enough, it would surely have shared in the development to *ēg*

undergone by *ænk*, *mk* and quite likely seen in OIr. *-téici* 'congeals' < **tænk-* < **tænnk-* < **tannk-* < **tṡ-n-k-* if directly comparable with the Skt. nasal present *tanakti* 'coagulates' (McCone, 1991b, 48). On the other hand, retention of the nasal past this stage would presumably have resulted in the *ing* sequence seen in *-cumaing* etc. In short, this derivation should have produced **-éic* or **-ing* but hardly *-ic*.

1.4 Ogam forms prove that *o* became *a* in final unstressed syllables in the prehistory of Irish: e.g., gen. pl. MAQA 'of (the) sons' < **-an* < (Gaul. *-on* <) PC **-om* < **-ōm* (III.5.1), gen. sg. NIOTTA 'of the sister's son' < **nioθah* < PC **ne(p)ot-os* (McManus, 1991, 84-5). If *-oi* had not already been monophthongised to *-ī* in Insular Celtic, it would presumably have become *-ai* as a result of this development and then undergone the Primitive Irish mono-phthongisation of *-ai* to *-ī* proved by examples like OIr. dat. sg. *tuil* < **tul-i* < **tol-i* < **tol-ī* < **-ai* < **-āy* (II.5.6 ; nom. *tol* 'will' < *tol-ā*). Thus, in the admittedly unlikely event that an *i*-affected MW nom. pl. like *beird* 'bards' is from **bard-īs* < IC **-ūs* rather than from IC **bard-ī* < **-oi* (II.5.3), nothing prevents derivation of an OIr. *o*-stem nom. pl. like *fir* from PrimIr. < **wir-i* < **wir-ī* < **-ai* < IC **-oi*. Since, however, there is nothing as yet to prevent the ascription of unstressed *o* > *a* in final syllables to Insular Celtic, this stage may already have witnessed both **-oi*, **-āi* > **-ai* and the further monophthongisation of both to **-ī* (III.5.7). Og. NIOTTA (OIr. *niad*) < IC **neotos* < **nepotos* also attests to a Primitive Irish change *e* to *i(y)* in hiatus before a back vowel not seen in MW *nei* < **neīs* < I/PC **neūs* < **nepōs* (Lat. *nepos* etc.).

1.5 A further crucial Primitive Irish development prior to 2.1(c) below at least was the probably regular insertion of *i* between consonant and *y* (Cullen, 1972): e.g., OIr. *aile* < PrimIr. **al'eyah* < **aliyah* < I/PC **alyos* (MW *eil*, Gaul. *allos*, Celtib. acc. sg. **ailam**) < IE **alyos* or **h₂elyos* (> Gk. ἄλλος, Lat. *alius*).

2.1 UMLAUT AND OTHER CHANGES IN VOCALISM. Whether it had come into being as early as Insular Celtic (III.5.3) or not, the initial word stress characteristic of Old Irish must have been in force by the time (a) below took place. The only exceptions to this general pattern are a few late juxta-positions of the type *in-nocht* 'tonight', *inn-uraid* 'last year' (article plus stressed *nocht* and *uraid*; III.5.4) and, more importantly, the so-called 'deutero-tonic' forms of compound verbs with proclitic first preverb as opposed to the so-called 'prototonic' forms with stressed first preverb that chiefly occur after certain proclitic particles such as the negative (see GOI27-31 and EIV1-8): e.g., deut.*for:beir* 'increases', *for:con-gair* 'commands' (stress on *-beir*, *-con-*) vs. *ní:for-bair* 'does not give', *ní:for[†]ngair* 'does not command' with prot.

forms (both stressed on *-for-*). In this case the first element (**wor* in the first two examples, the negative in the last two) was probably once separated from the rest of the verbal expression in tmesis with the result that both halves were stressed. However, once these had been 'univerbated' into a single group at the head of the sentence, the lighter stressed element (**wor*, neg. respectively) became proclitic to the heavier one following it by the process in III.5.2 (see Watkins, 1963, and McCone, 1979, for full discussions).

That brings us to three crucial Primitive Irish developments illustrated by OIr. *cucann* 'kitchen' (assimilated as a fem. \bar{a} -stem with nom. sg. **kogīnā*) < Lat. *coquīna* /kogīna/ (> MW *kegin*) and *pridchid* 'preaches' (assimilated as a weak \bar{a} -verb with 3sg. conj. **-preðixāh*) < *praedicat* /preðikat/ below.

(a) Shortening of unstressed long vowels except before *-h*, whence unchanged **-preðixāh* but **kogīnā* > **kogina*, **tol-ī* > *tol-i*, **wir-ī* > **wir-i* in 1.4, (PIE **mātēr* > P/IC **mātīr*) > **māθīr* > **māθir* (OIr. *máth(a)ir*).

(b) Raising of stressed short *e*, *o* (i.e. in initial syllables) to *i*, *u* respectively before a high vowel (*i/ī* or *u/ū*), whence **kogina* > **kugina*, **-preðixāh* > **-priðixāh*, **tol-i* > **tul-i*.

(c) Lowering of short stressed or unstressed *i*, *u* to *e*, *o* before a non-high back vowel (*a/ā* or *o/ō*) in the following syllable, whence **kugina* > **kugena*, **-priðixāh* > **-prið'exāh* or **aliyah* > **al'eyah* in 1.5.

As one might expect, some Ogam forms with (b) or (c) and some with neither are attested: e.g., gen. sg. *-CUNAS* (< PC **kunos*), *-CONAS* and *-CONA* and finally *-CON* = OIr. *con* (McManus, 1991, 102; OIr. nom. sg. *cú* 'hound'). The lost final syllable often left its mark in the form of a vocalic alternation in an Old Irish paradigm: e.g., OIr. nom. sg. *fer* 'man' < PrimIr. **werah* < **wirah* < PC **wiros* by (c) but gen. sg. *fir* < PrimIr. **wiri* < **wirī* or nom. sg. *mil* 'honey' < PrimIr. **milih* < **melis* (cf. Lat. *mel*, Gk. *μέλι*) by (b) but gen. sg. *melo* < **melōh* < **melōs*.

Being confined to stressed syllables was not the only respect in which (b) was more restricted than (c), which seems only to have been impeded in the case of *i* (as opposed to *ī*) by intervening *nd* on the evidence of OIr. *find* 'white' < PrimIr. **wiNda(h)* < PC **wind-os/-ā* (Gaul. *-uindos*, MW m. *gwynn*, f. *gwenn*). Raising in (b) by contrast frequently failed to take place over a voiceless consonant or a group of consonants, although the precise details have yet to be worked out: e.g., OIr. nom. sg. *ech* 'horse', *nert* 'strength' < **ekwos*, **nertom* and unraised gen. sg. *eich*, *neirt* < **ekwī*, *nertī*; OIr. nom. sg. *mes* 'judgement', gen. sg. *meso* < PrimIr. **messuh*, **messōh* < PIE

**med-tu-s*, **med-tew-s* (OIr. *mid-ithir* 'judges' < PrimIr. **meðithor* < **med-ye-tor*) unlike nom. sg. *fius* 'knowledge', gen. sg. *feso* < PrimIr. **wissuh*, **wessōh* (< **wissōs*) < **wid-tu-s*, **wid-tew-s* (more in *GOI* 47-9; see II.2.2 on *dt > ss*).

2.2 Prior to raising in 2.1(b) stressed *e* was lowered to *æ* before γ/γ^w and *e/i* unless the following syllable contained *y* (McCone, *SnaG*, 79). Hence nom. sg. **deγ^wih* > **dæγ^wih* > OIr. *daig* 'flame' but gen. sg. **deγ^wōh* > OIr. *dego*; dat. sg. **tegesi* > **tegis* > **teγih* > **tæγih* > OIr. *taig* (Wb.) but nom./acc. sg. **tegos* > **teγah* > OIr. *tech* 'house' and gen. sg. **tegesos* > **tegisos* > **teγiyah* by 2.1(b) > **tiγ'eyah* by 2.1(c) > OIr. *tige* (*Fél.*); 3 sg. **Leyeθi* > **Læyeθi* > OIr. *laigid* 'lies' but 3 pl. **Leyodi* > OIr. *legait* and verbal noun nom./acc. **Leyiyan* > **Liγ'eya(n)* by 2.1(b) and (c) > OIr. *lige* 'lying'. On the evidence of OIr. *dér* 'tear' (MW pl. *dagreu*; Gk. δάκρυ etc.) < **dēr* (cf. *ēd/g* < *ænt/k* in 1.4) < **dæxr* < **dakro-* vs. OIr. *ár* 'slaughter' (OW *hair*, MW *aer*) < **ayr* < **agro-* a similar fronting occurred before *xr* (see *GOI* 78 for arguable examples of this development before *xl/n*) but not $\gamma r/l/n$. Since an example like *feidid*, *-feid* 'leads' shows that lowering to *æ* did not occur before a dental, the reflex seen in 3 sg. *saidid*, *-said* 'sits', 3 pl. *sedait*, *-sedat* < **seðe/o-* must be due to the analogical influence of *laigid*, *legait*.

Schrijver (1995, 134-41) has argued, on the strength of a couple of British instances explicable in terms of *eg* > *æγ* > Brit. *ag*, for Insular Celtic *ege/i* > *æge/i*. This then yielded *iγ* by raising but otherwise *aγ* in Old Irish. Thus Schrijver (1995, 139-40) would ascribe a case like *lige* to straightforward raising of **læyi(y)an* to **liyi(y)an* but then has to invoke 'the numerous restrictions to which the law of raising is subject' in general and three separate *ad hoc* rules in particular to account for its absence in OIr. *daig* 'flame' < **deγ^wi-*, *graign* 'flock' < **greγi-*, *aig* 'ice' < **yeγi-*. Since, as just pointed out in 2.1, an intervening single voiced consonant seems to have been maximally conducive to raising, these three forms speak strongly against Schrijver's formulation of the split between *iγ* and *aγ* and in favour of the contention here that the former only arose where the following syllable contained *y*. Nevertheless, there remains a serious possibility that *eye/i* > *æye/i* occurred as early as Insular Celtic, although the British evidence is suggestive rather than conclusive.

2.3 Stressed *a* was diphthongised to *au* before *u/ū* in the following syllable (Greene, 1976, 28-9): e.g., OIr. nom. sg. *ball* 'limb' < **baLah* (< **-os*) but dat. sg. *baull* < **bauLu* < **baLū(i)* and acc. pl. *baullu* < **bauLū* (< **-ūs*). Og. CALUNO- > **Cauluna-* > **Caulona-* > OIr. *Caulann* shows that this happened some time before lowering in (c) above. Unstressed *a*, however, was not affected by *u*-colouring: e.g., *marbad* 'killing' < **marwaθuh* < **-ātus* as opposed to *léiciud* 'letting' < **lēgiθuh* < **-ītus*.

Dat. sg. **wirū* (< PC **wirūi*) was shortened to **wiru* in accordance with 2.1(a), whereas acc. pl. **wirūh* (< PC **wirūs*) remained unchanged. The diph-thongs *eu*, *iu*, *ou* then arose as a result of the assimilatory effects of a short *u* upon *e*, *i* and *o* respectively (Greene, 1976, 29-30). Thus dat. sg. **wiru* > **wiuru* > OIr. *fiur* '(to a) man' vs. acc. pl. **wirūh* > **wirū* > OIr. *fiuru*. Likewise *o*-stem dat. sg. **Nertū* > **Nertu* > **Neurtu* > OIr. *neurt* '(to) strength', **Roθū* > **Roθu* > **Rouθu* > EOIr. *routh* '(to a) wheel', *u*-stem nom. sg. **wissuh* > **wiussuh* > OIr. *fius* 'knowledge'. As the contrast between *fius* and *mes* < **messuh* shows, *u*-colouring did not affect stressed *e* across *ss*. In unstressed syllables, however, *u* was added to *e* as well as *i*: e.g., OIr. *tomus* 'measurement' < **tõeu(s)suh* < **tõvessuh* < **to-messus*, *dorus* 'door' < **doreu(s)suh* < **doressuh* < **d(w)ores-tu-s*.

The contrast between OIr. deut. *as:biur* 'I say' < **biuru* < **biru* < **berū* (raising of stressed *i* by 2.1b) and prot. *-epur* < **e-buru* < **eγ-beuru* < **ex(s)-berū* also indicates that unstressed *eu* became *u* but it is clear from examples like dat. *cenéul* '(to a) family' < **keneuθlu* < **keneθlu* < **kenetlū* that this happened after the compensatory lengthening in 5.1.

Note the parallelism between nom./acc. sg. *fer* 'man', *céile* 'fellow' (< **wera-*, **kēl'eya-* < **wira-*, **kēliya-* by 2.2c), gen. sg. *fir*, *céili* (< **wir'-i*, **kēl'-ī* < **kēliy-i* < **kēliy-ī*), dat. sg. *fiur*, *céiliu* (< **wiuru*, **kēl'iuyu* < **wir-u*, **kēliy-u* < **-ū*).

2.4 An *æ* < *a* by fronting before nasal plus obstruent (1.3 and II.5.1) was retracted to *a* again before *mb* or *nd* followed by a back vowel (*a/o* and probably high *u*), whence OIr. *land* 'area, land' < **LAND-a* < **LæNd-ā* < PC **land-ā* (> MW *llann*), OIr. *camb* 'crooked' < **kamb-ah* < **kæmb-ah/-ā* < PC **kamb-os/-ā*, and 'in it, there' < **and-an* < **ændan* < PC **andom* < PIE **h₁ng-dom* (Hitt. *andan*), OIr. *ambue* '(cowless) outlaw' < **æm* + **buwiyah* (OIr. *bue*) < **bowiyah* < PC **bowyos* < **g^wow-yo-s*.

An *æ* unaffected by this process by virtue of being followed by *ng^(w)* or by *mb/nd* plus a front vowel was subsequently raised and fronted to *i* before nasal plus voiced stop: e.g., OIr. *cimbid* 'prisoner' < **kimb-iyathih* < **kæmb-iyathih* < **kamb-iyatis*; OIr. *ind-* 'in' < **INde* < **ænde* < PC **ande* (Gaul. *ande-*); OIr. gen. sg. *Imchado* (nom. *Imchad*) < **imbīxaθō* < Og. AMBICATOS /æmbixaθōh/ (McManus, 1991, 113; McCone, 1991, 67-8; cf. Gaul. *Ambicatus* < PC **Ambi-katus*); OIr. *ingor* 'anchor' < PrimIr. **ngura* < **ængurā* < Lat. *ancora* (/ankura/?); OIr. gen. sg. *imbe* (nom. *imb* 'butter'; cf. OC *amen-en*, MW *y-men-yn*, Lat. *unguen*) < PrimIr. **æmbēh* < PC **ambēs* < PIE **h₃ng^w-en-s*. This raising took place before the lowering in 2.1(c) on the evidence of **d/tng^hwāt-* > PC **tangwāt-* > **tængwāθ-* > **tngwaθ-* > **tengwaθ-* > OIr. *tengae* 'tongue'.

2.5 Although *y* seems to have been lost as early as Proto-Celtic in a

couple of specific environments (II.3.1), it is clear from British and Continental Celtic that *y* was preserved in most contexts: e.g., Gaul. *Iantu-*, *W add-iant* 'longing' vs. OIr. *ét* 'jealousy' < **yænto-* or the **yowænko-* reflexes in II.5.1. Consequently its general absence in Irish is due to loss after the end of the Insular Celtic period, its retention until well into the fourth century at least being implied by McManus' attractive suggestion that the Ogam sign conventionally transcribed H originally had the value /y/ (I.5.1). This is supported by further linguistic considerations. To begin with, the epenthesis in 1.5 above presupposes the survival of postconsonantal *y* at that stage. Furthermore, despite different reflexes in Old Irish such as *o*-stem *fir* /fir/ 'man's' < **wirī* vs. *yo*-stem *céili* 'client's' < **kēliyī*, the genitive singular of both *o*- and *yo*-stems is written -I in Ogam (McManus, 1993, 115): e.g., MAQ(Q)I (*o*-stem, OIr. *maic*), CORRBRI (*yo*-stem, OIr. *Coirpri*), LUGUNI (*yo*-stem, OIr. *Luigni*). The obvious explanation is that this -I represented /-i/ in the *o*- but /-ī/ in the *yo*-stems. If so, the latter must have arisen by contraction of *-ii < *-iyī after the former had been shortened to *-i by 2.1(a). Whereas *-i was lost by the apocope in 4.3, *yo*-stem *-ī (like any long vowel that remained or arose after the shortening in 2.1a) survived in Old Irish as the corresponding short vowel. Thus **wirī* > **wiri* > **wirī* > OIr. *fir* but **kēliyī* > **kēlii* > **kēlī* > OIr. *céili*. This would place loss of *y*, in this environment at least, after the shortening of final vowels but before the contraction to *-ī that seems to be regularly reflected in Ogam spelling and so probably took place rather early in the fifth century. So far there is no obvious obstacle to the economical assumption that a general loss of *y* occurred in Primitive Irish at that time, although it may have survived somewhat longer as a non-phonemic glide between *i* and *e* or a back vowel. Certainly the different outcome of *laigid* < **leȳeθi* and *lige*, gen. *ligi* < **leȳiy-an/-i* shows that *y* must still have been present when 2.2 applied (prior to 2.1b).

2.6 According to Kortlandt (1979, 46-7), after the shortening of un-stressed vowels in 2.1(a) above the oppositions *i/e* and *u/o* were neutralised if the following syllable did not contain *i* or *u*. Subsequently *e* and *o* arose unless a palatal consonant intervened as in the case of voc. sg. *fir* 'man' < **wir'e*, *fiche* 'twenty' < *wix'ēh* or *cingid* 'steps' < **ki'ŋg'eθi* vs. pl. *-cengait* < **kŋgodi* or sg. *bong(a)id* 'breaks' < **buŋgeθi*. The main purpose of this rather elaborate modification of the conventional formulation of the basic raising and lowering rules in 2.1(b)-(c) is to account for the otherwise difficult *o* in verbs like *bong(a)id*, *-boing* or nom. pl. *coin* 'dogs', these last forms then being derived from **bungeh*, **kuneh* on the assumption that palatalisation of consonants between front vowels occurred before the palatalisation of any consonant by *e* or *i* in a final syllable. Although Kortlandt's rule provides the most straightforward morphological analysis of the *o*-vocalism of a few verbs like

-boing or *fo:loing* 'suffers', this is achieved at the expense not only of considerably complicating the raising and lowering rules but also of splitting the first palatalisation in 3.2 below into two chronologically distinct stages. More to the point, it is falsified by 3sg. pret. *luid* 'went' < **luðe*, which should have yielded OIr. **loid* in accordance with Kortlandt's formulation. Since 3sg. **loid* would have been quite distinctive and have alternated with *lod(-)* in the rest of the paradigm in a manner very similar to the pattern observed in *-boing*, *-bongat* etc., *luid* is clearly not analogical and Kortlandt's rule is invalidated.

Schrijver (1995, 51) lists eight arguable examples of *o* for *u* in Old Irish as a result of what he terms 'Kortlandt's restriction' and considers that 'the only true counterevidence, which I cannot explain, is offered by OIr. *'luid* 'went' < **lude(t)* and *'buig* 'broke' < **buge(t)* (Joseph 1990: 116). Both forms have word-final **-e* in PrIr. Might one suggest that *word-final* **-e* merged with **-i* before lowering took place, as Pedersen thought...?' (1995, 51-2). This possibility is, however, ruled out by OIr. 2sg. imperatives such as *be(i)r* 'carry!', *du-m:em* 'protect me!' (not **bir*, **im* < **beri*, **ēvi*) < **bere*, **eme*. Since it is almost certainly an innovatory Middle Irish *s*-preterite replacing OIr. reduplicated suffixless *-bobuig* (McCone, 1986, 230), *-buig* is not really a problem but that still leaves the extremely well attested *luid* as a fatal obstacle to Kortlandt's argument, and all of the examples adduced by Schrijver are susceptible to alternative explanations. Thus the adjective *sonairt* 'strong' may contain original *so-* rather than *su-*. The former probably arose by II.5.1 from **su-* before *w-* and perhaps also from prevocalic **suw-* in Proto-Celtic and then became somewhat productive, being attested alongside *su-* in Gaulish (Ellis Evans, 1967, 257) as well as having reflexes in Irish (GOI 231) and British (LHEB 659). As for OIr. *ar:ne-get* 'prays' allegedly from **are ni-g^wed-i-t*, Pokorny (IEW, 312) is surely right to suggest that full-grade *nē* < **nei* underlies OIr. *ar/ind:neat* 'awaits' < **are/ande nē-sed-e-t*, since **niat* should have resulted from **ni-sed-* (or even **ne-sed-* by V.2.1; see McCone, 1993b, 64). Presumably, then, *ne* in *ar:ne-get* is due to shortening of **nē* on the analogy of *-neat* rather than to the operation of Kortlandt's rule upon **ni*. A possible morphological solution to the problem of *o* in verbs of the *-boing* type has been proposed elsewhere (McCone, 1991b, 41-7) and Joseph (1990) accounts for the vocalism of acc. sg. or nom. pl. *coin* 'dogs' by utterly straightforward derivation from the full-grade **kon-en/-es* (replacing **kwon-* under pressure from zero-grade weak **kun-*) with preservation of the strong stem proper to these cases in PIE rather than from the **kun-en/-es* with generalised zero grade posited hitherto. He also makes the reasonable assumption that MW *cwn* 'dogs' is from **kon-es*, which probably survives in Ptolemy's Οὐενί-κωνες (surely most unlikely to be a corruption of -κωνες identical with the Greek word for 'dogs'), in line with a British tendency to raise *o* to *u*

before *n* seen in *mwn* 'neck' < **monis* (OIr. *muin*), for example. This has been disputed by Schrijver on the grounds that 'raising of **o* to **u* in British did not occur between **k* and a nasal' (1995, 50). Even if this were true and the British form must be from **kun-es*, that would not disprove the derivation of OIr. *coin* from surviving full-grade **kon-es*. Since, however, Schrijver's sole good example of non-raised *o* here is *cof* < **koṽ* and his only instances of non-raising before *n(n)* involve *e*, the possibility of MW *cwn* /kʉn/ < **kon* by raising is hardly excluded.

In conclusion, Kortlandt's rule and its ramifications can be dispensed with on the grounds that it is essential for none of the forms in question and is directly contradicted by OIr. *luid*.

3.1 PALATALISATION. The crucial Old (Middle and Modern) Irish opposition between non-palatal or broad and palatal or slender phonemes is clearly seen in minimal pairs such as OIr. *ráth* /Rāθ/ 'surety' vs. *ráith* /Rāθ'/ 'rampart', nom. sg. *mac* /mak/ 'son' vs. gen. sg./nom. pl. *maic* /mak'/ 'sons', 3 sg. pres. *be(i)rid* /ber'əð'/ 'carries' vs. subj. *ber(a)id* /berəð'/ 'may carry'. As has long been realised, the origins of this phenomenon are to be sought in the typologically widespread development of palatal and non-palatal allophones of individual consonant phonemes before front (*e/ē* or *i/ī*, cover symbol E) and back (*a/ā*, *o/ō* or *u/ū*) vowels respectively: cf. the allophonic variation in Modern English between palatal [k'] in words like *kill*, *keel* and non-palatal [k] in *call*, *cool* etc. Phonemicisation of such variation is by contrast rather less frequent, being confined to Irish within the Celtic group. The obvious mechanism for producing it was loss of previous distinctions between palatalising and non-palatalising vowels, an extreme case being complete disappearance of the vowel(s) in question. As we shall see, this phonemicisation of palatal versus non-palatal throughout the consonant system spread in several stages between Primitive and Middle Irish.

According to Thurneysen (*GOI* 102-3) single intervocalic non-labial and non-guttural consonants were palatalised before *e/ē* or *i/ī* in Primitive Irish without regard to the quality of the vowel before the consonant. Pedersen's treatment of palatalisation (*VKG* I, 345-8) rightly distinguishes between a consistently palatalising front vowel liable to apocope or syncope and a retained front vowel with a less marked palatalising effect, the precise details of which remained obscure: 'before a non-final unaccented originally front vowel palatalisation does not usually take place' (347). Martinet (1955, 199-211) was the first to realise that a preceding as well as a following vowel could play a role and this possibility was explored further by Cowgill (1969). Greene (1973) then produced a masterly synthesis and further development of these insights.

A central plank of Greene's approach was the difference, also apparent to Pedersen and Martinet before him, between a reduced front vowel (*ĩ* < *e*,

i) that palatalised any preceding consonant(s) before being lost by apocope or syncope and a less strongly palatalising retained front vowel. This distinction was needed in order to account for plentiful contrasts of the following type: *-tabair* 'gives' < **taver'-ī* < **to-veret* vs. *-taibret* 'give' < **tav'īrod* < **to-veront*, *erbaid* 'entrusts' < **erbiθ'ī* vs. *eirbthi* 'entrusts himself, trusts' < **er'b'īθ'i* < **erbiθiy-ī(n)*. This retained front vowel only palatalised single consonants or groups of nasal plus stop (*mb*, *nd*, *ng*). However, whereas pala-talisation in this case regularly occurred between two front vowels (E(N)CE > E(N')C'E), position between a back and a front vowel was subject to more complicated rules depending upon whether the first vowel was rounded or unrounded, the consonant was labial/velar (C/P) or not (T) and the second vowel was *e* or *i*.

3.2 The first palatalisation, then, affected a single consonant (and *mb*, *nd*, *ng*) between two front vowels or between any vowel (except *ā*; see below) and high front *i/ī*: e.g. OIr. *daig* 'flame' < **dæγ'ih* < **dæγ'ih*; OIr. *laigid* 'lies' < **Læγ'eθ'ī* < **Læγeθi* (between front *æ* and *i* or *e*); OIr. *beirid* 'bears' < **ber'eθ'ī* < **bereθi* (between two *e*'s); *túaithe* (gen. sg. of *túath* 'kingdom') < **tōθ'eyāh* < **tōθ'iyāh* < **tōθiyāh*; *gaibid* 'takes' < **gav'īθ'ī* < **gaviθi* (between back *ō* or *a* and *i(y)*); *ráithe* 'quarter (of year)' < **Rāθ'eya* < **Rāθ'iya* < **Rāθiyā* (between *ā* and *iy*). In accordance with this rule there was no palatalisation in cases like *canaid* 'sings' < **kaneθ'ī* < **kaneθi*, *carae* 'friend' < *karēh*, *tocad* 'fortune' < *togeθah* (1.3; between *a* and *e*) or *erbaid* 'entrusts' < **erbiθ'ī* < **erbīθi*, *ní:dén(a)i* 'does not do' < **-deγnīθ*, *áram* 'reckoning' < **aθrīvā* (two consonants).

When the preceding vowel was stressed and rounded, there was no palatalisation of a labial or guttural consonant between this and *i/ī* but palatalisation of any other single consonant (or *nd*) did occur: e.g., *sluindid* 'names' < **sLUN'd'īθ'ī* < **sLONdiθi* < **sLONdīθi*, *-cuirethar* 'puts' < **kur'eθor* < **korīθor*, *tuirem* 'recounting' < **tur'eṽa* < **torīvā* with palatalisation but *cucann* 'kitchen' < **kugena* (2.1), *ungae* 'ounce' < Lat. *uncia*, *do:lugai* 'forgives' < **-Luγīh* < **Loγīθ*, *umae* 'bronze' < **uṽeya* < **oṽiyan*, *ógae* 'wholeness' < **ōγeya* < **ōγiyā* without it. Palatalisation in the OIr. comparative *duibiu* 'blacker' is presumably analogical and, even though both *do:luigi* and *do:lugai* are attested in the Glosses, there would be no motive for introducing *lug-* /Luγ-/ into a paradigm *luig-* /Luγ-/ with palatal stem-final consonant throughout in accordance with the normal weak *i*-present (W2) pattern, whereas the reverse is easy to justify.

This palatalisation must be dated before the lowering in 2.1(c), since the rule of non-palatalisation between a back vowel and *e* (as opposed to *i*) would otherwise have produced **túathae* < **tōθeyāh*, **ráthae* < **Rāθeyā* instead of actually attested *túaithe*, *ráithe* < unlowered **tōθ'iyā(h)*, **Rāθ'iya* and so on.

Greene's rule that a following *i* invariably palatalised a single consonant (or *nd*) that was neither labial nor guttural entails the assumption that the stem-final consonant of the weak *i*-verbs *ráidid* 'says' and *sáidid* 'places' (< **rāðīθi*, **sāðīθi*) was originally palatal throughout the paradigm. However, this is hard to square with Old Irish examples like pres. 3pl. *-rádat* (Ml. 31^a18), 3sg. rel. *rádas* (Ml. 42^c4&10), 1sg. *-sádu* rhyming with *dánu* in *Féilire Óengusso* (Jan. 23), subj. 3sg. *-ráda*. Since weak *i*-verbs of this type (W2a) normally had palatal final throughout (e.g. *-léicet*, *léices*, *-léiciu*, *-léicea*) it seems inconceivable that the non-palatal *d* so clearly seen in these forms was due to analogy. As with *do:lugai* above, it seems necessary to start from a paradigm which basically had a non-palatal stem-final consonant, whence 3sg. *-rádai* < **rāðī* < **rāðīθ*, 3pl. *-rádat* < **rāðeyod* < **rāðiyod* < **rāðiyont* and so on. Wherever the front vowel was liable to syncope it will have first been weakened to invariably palatalising *ī* (3.1 and 3.5), whence OIr. passive *-ráter* 'is said' < **rāð'θor* < **rāð'īθor* < **rāðīθor*. The basic point is that, unlike *a* or *o/ō*, *ā* impeded palatalisation of a following consonant by an *i/ī*, whence *rádaid* 'says' < **Rāðīθ'ī* < **Rāðīθi*, *cnámai* 'bones' < **knāvīh*, *máthair* 'mother' < **māθir* < **mātīr* (McCone, 1994, 281-2). Verbs like W2a *erbaid* 'entrusts', *sádaid* and *rádaid* with an inherited opposition between syncopated forms with palatal and unsyncopated forms with non-palatal stem-final consonant were then liable to experience spread of the non-palatal consonance from syncopated to unsyncopated forms in line with the majority W2a type (*léicid* etc.) with palatal final throughout, the upshot being *sáidid*, *-ráidi* etc. Unless their palatal *-th-* is analogical, forms like *ráithe* above (Ml. 93^c7 *rathib* being, of course, ambiguous) and *áithæ* 'sharpness' (Sg. 108^a4) < **āθ'eya* < **ātiyā* seem to indicate that, unlike its voiced counterpart, a voiceless dental stop/fricative was palatalised between *ā* and *iy* (as opposed to *i/ī* without *y*). A full collection of relevant examples is an obvious desideratum. Between an unstressed vowel and a back vowel *-s* seems to have been simplified to *-sy-* and then *-s-* before palatalisation: e.g., 3sg. rel. *spret. marbas* < **marw-asa* < **-asya* < **-assi-yo* (McCone, 1995, 130-2).

After the raising of a preceding stressed *e*, *o* in 2.1(b) by *i* (but not *e*) and the loss of final *-n* or *-h*, short *e* and *i* were apparently reduced in absolute final position to a palatal schwa *ī* that palatalised any preceding consonant(s) except the group *cht* regardless of the vowel that stood before it/them: e.g., OIr. *baird* 'bards' < **baR'd'ī* < **baRdi* < **baRdī*; *mil* 'honey' < **mil'ī* < **mili* < **melih*; OIr. nom./acc. sg. *ainm* 'name' < **an'm'ī* < **anme* < **anmen* but gen. sg. *anmae* < **anmē* < **anmēh* and nom./acc. pl. *anmann* 'names' < **anmen* < **anmena*; 3sg. conj. *-cain* 'sings' < **kan'ī* < **kane* < **kaneh* < **kaneθ* vs. abs. *can(a)id* < **kaneθ'ī* < **kaneθi*. The details of this process are sufficiently different from those of the foregoing to raise doubts

as to whether they should be lumped together. On the other hand, since this palatalisation must have occurred between raising and apocope and the former must have preceded lowering, they appear chronologically compatible and it seems most economical to make them contemporaneous as a first palatalisation between the post-raising (2.1b) emergence of \bar{i} and lowering (2.1c).

3.3 As is clear from the foregoing, the first palatalisation predated low-ering of $i, u > e, o$ before a low back vowel in 2.1(c). Since it follows from 3.4 below that the palatalisation of an initial consonant or group of consonants by following stressed e/\bar{e} or i/\bar{i} occurred after this lowering, this process constitutes a second palatalisation: e.g., OIr. *beirid* 'bears' < $*b'er'e\theta\bar{i}$ < $*ber'e\theta\bar{i}$, *mligid* 'milks' < $*m'l'iy'e\theta\bar{i}$ < $*mliy'e\theta\bar{i}$, *scél* 'story' < $*sk^w'e\theta la$ < $*sk^w'e\theta lan$. Low front $\bar{æ}$ (< e by 2.2) may have been retracted to low back a between the first and second palatalisations. At any rate, it did not palatalise an initial consonant: e.g., *laigid* 'lies' (< $*La\gamma'e\theta\bar{i}$?) < $*L\bar{æ}\gamma'e\theta\bar{i}$ < $*Le\gamma'eti$ vs. 3pl. *legait* < $*L'e\gamma od\bar{i}$ < $*L'e\gamma onti$, *daig* 'flame' (< $*da\gamma^w\bar{i}$) < $*d\bar{æ}\gamma^w\bar{i}$ < $*de\gamma^w ih$ vs. gen. sg. *dego* < $*d'e\gamma^w\bar{o}$ < $*de\gamma^w\bar{o}h$.

3.4 Older Ogam inscriptions still distinguish k^w from k by means of the signs transcribed Q and C respectively but C can be used for both on later inscriptions: e.g., gen. sg. CUNAMAQI /kunaŋak^wi/ (OIr. nom. *Conmac*) but MAC /mak'/ for earlier MAQI /mak^wi/ (OIr. nom. sg. *mac* 'mac' < $*mak^w k^w os$, MW *mab* < $*mak^w os$, Gaul. acc. sg. *mapon*). It would appear, then, that simplification of k^w and g^w to k and g took place in the course of the sixth century A.D. (McManus, 1991, 90; McCone, 1991, 38-45).

However, prior to loss of the labial element i and a were rounded to u and o respectively after k^w or g^w : e.g., OIr. *coire* 'cauldron' < $*k^w or'eya$ < $*k^w ariyah$ < $*k^w aryos$ (> MW *peir*) < $*k^w r_1-yos$; OIr. *goire* 'filial piety' < $*g^w or'eya$ < $*g^w ariyā$ (> MW *gwarded*) < $*g^w r_1-yā$; OIr. *cruth* 'shape' < $*k^w ru\theta u$ < $*k^w ri\theta uh$ < $*k^w ritus$ (> MW *pryt*) < $*k^w r_1-tus$; OIr. *guidid* /guð'əð'/ 'prays' < $*g^w u\delta' i\theta\bar{i}$ < $*g^w i\delta i\theta i$ < $*g^w editi$ (cf. MW *gwediaf*). In view of the failure of this rounding to affect e (e.g. OIr. *cenn* 'head' < $*k^w ennom$), it must be assumed that $*g^w e\delta i-$ had already been raised to $*g^w i\delta i-$ and $*k^w rina-$ lowered to $*k^w rena-$ by the time it applied in order to generate OIr. *guidid* 'prays' and *crenaid* 'buys' (instead of $*geidid$, $*crunaid$; see McManus, 1992, on some paradigmatic anomalies and skews resulting from this sequence). Consequently $i > u$ here must be dated after the lowering in 2.1(c), whereas it has been seen that the first palatalisation must have predated lowering. If, however, the second palatalisation had antedated $i > u$ after a labiovelar, one would expect OIr. $*criuth$ / $*k'r'u\theta$ / instead of actually attested *cruth* / $kru\theta$ / 'shape' and so on. Therefore, the lowering in 2.1(c) must be placed between the first palatalisation in 3.2 and the second palatalisation of initial consonants by stressed e/\bar{e} or i/\bar{i} in 3.3.

3.5 The third palatalisation came about after the truncation or loss of final syllables (4.3 below) when the front vowels *e*, *i* and *ü* (< *u* before a front vowel *i/e* in the following syllable; Greene, 1973, 134) fell together as palatal schwa *ĩ* in a non-final internal syllable directly after the first syllable bearing the main stress and (where applicable) after the third syllable probably bearing secondary stress. Like its counterpart produced before the apocope (3.2), this sound palatalised any preceding consonant(s) and can probably be seen in Ogam TOGITAC /Tog ʔĩθaxʔ/ < *Togethaxi < *tonketākī. One would expect OIr. gen. sg. *Tocthaig instead of actually attested *Toicthig* (3.1 above and McManus, 1991, 89) but for this development, which accounts for alternations such as OIr. *tocad* 'fortune' < *togeθ < *togeθah < *tonketos (MW *tynghet*) vs. *toicthech* 'fortunate' < *tog ʔĩθax < *togeθaxah, OIr. *erbaid* 'entrusts' < *erbiθʔ < *erbīti vs. *eirbthi* 'entrusts himself, trusts' < *erʔb ʔĩθʔi < *erbītiy-en, OIr. *tabair* 'give!' < *taverʔ < *taver ʔĩ < *to-vere but *taibred* 'let him/her give' < *tav ʔrʔeθ < *taverʔeθo, nom. *Luguid* < *Luyudʔ < *Luyüðʔe(h) < *lugu-dex-s vs. gen. *Luigthech* < *Luy ʔĩðʔex < *Luyüðʔex (Og. LUGUDEC) < *Luyüðexa(h) (Og. LUGUDECA, LUGUDECCAS; McManus, 1991, 89) < *lugu-dek-os.

Greene's (1973, 134) suggestion of a parallel reduction of *a*, *o* and unfronted *u* to non-palatal schwa (here represented by *ũ*) in post-tonic syllables would entail derivations like OIr. *frecrae* 'answer' < *wʔrʔegürʔe < *wregarʔe < *wregarʔeya < *wri(t)gariyan, OIr. *-dílgai* 'forgives' < *dĩlũy ʔĩ < *dĩloy ʔĩ < *dĩloyĩθ. However, whereas its stronger palatalising effects help to distinguish *ĩ* from *i*, *e* or *ü*, non-palatal *ũ* behaved no differently from *a*, *o*, or *u* with the result that this reduction cannot be proved on the strength of Old Irish itself. Nevertheless, some support is provided by various spelling fluctuations in Ogam such as CATTUBUTTAS /kaθuvuθah/ vs. later [CAT]TABOTT /kaθũvoθ/ (McManus, 1991, 89). It would seem that even front vowels in a post-tonic syllable became non-palatalising *ũ* rather than palatalising *ĩ* before non-palatal *h*: e.g., *cuiacce* 'to her' < *kugʔhʔe < *kug ʔĩhʔe < *kʔugehʔeyan < *kʔunkʔe-siyan but *cuccu* 'to them' < *kugʔhu < *kugũhũ < *kugehũh < *kʔunkʔe-sūs (McCone, 1993c), prot. *-impai* 'turns' < *imphoy < *imbʔhoy < *imbũ-howʔ < *æmbi-sowet(i), *-intamlathar* 'imitates' < *inthaũl- < *indʔhaũl- < *indũ-havũl- < *ænde-samal-.

In view of the hopeless confusion resulting from Russell's (1995, 32) failure to recognise this basic fact (see 3.3 of McCone, forthcoming c), it is to be stressed that these reductions of short vowels to palatal and non-palatal schwa only took place in non-final post-tonic syllables subsequently liable to syncope and did not affect the vowels of other unstressed syllables, which escaped not only syncope but also, as has usually been inferred from the good evidence of the small corpus of Early Old Irish material (V.4.3), this pre-

liminary weakening.

4.1 LOSS OF FINAL CONSONANTS AND VOWELS. It has been seen firstly that a final voiceless fricative (basically $-(s)$ by 1.2 above and $-\theta$) became $-h$ after the Irish lenition (III.4.4) and secondly that unstressed long vowels were shortened except in front of this $-h$ (2.1a) prior to lowering of short u or i before a or o (2.1c) and in advance of u -affection of e, i, o (2.3). Thus nom. sg. $*rīh$ 'king' < $*rīs(s)$ < $*rīx-s$, gen. sg. $*rīyah$ < $*rīg-os$, acc. pl. $*rīyāh$ < $*rīg-ās$ (< $*-ans$), gen. pl. $*rīyan$ < $*rīg-om$; nom. sg. $*werah$ 'man' < $*wir-os$, gen. sg. $*wiri$ < $*wirī$, dat. sg. $*wiuru$ < $*wirū$ (< $*-ūi$), acc. pl. $*wirūh$ < $*wirūs$, gen. pl. $*weran$ < $*wir-om$ < $*-ōm$; nom./acc. sg. $*arwar$ 'grain'; pres. ind. 3 sg. abs./conj. $*bereθi/$ $*-berēh$ (< $*bereθ$) 'bears', 3 pl. $*berodi/$ $*berod$ (< $*-ont(i)$).

After a voiced consonant w became v , as is clear from OIr. *marb* /marv/ 'dead' < $*marvah$ < PC $*marwos$, *arbar* /arvar/ 'grain' < $*arvar$ < PC $*arwar$, *fedb* /feðv/ 'widow' < $*wiðva$ < PC $*widwā$, *ainb* /an'v/ 'ignorant' < $*anvih$ < PC $*an-wiss$. It is necessary to posit that final $-n$ was still present to change initial w > v - across the word boundary too in syntactically close groups: e.g., gen. pl. OIr. *inna fer* /iNa ver/ 'of the men' < $*inda vera$ < $*indan veran$ < $*indan weran$ < $*(s)indom wirom$. Presumably w combined with a preceding h as voiceless f at about the same time: e.g., OIr. *seinnid* 'plays' < $*swen-e-ti$ but reduplicated preterite *sefainn* 'played' < $*sefone$ < $*sehwone$ < $*se-swon-e$, nom. sg. OIr. *in fer* 'the man' < $*inda fera$ < $*indah werah$ < $*(s)indos wiros$, OIr. *a fiur* 'his sister' < $*eya fiūr$ < $*e(h)ya hwehūr$ < $*esyō swesūr$.

4.2 Final $-h$ and $-n$ were then lost in various ways. Although it disappeared without trace before a following consonant other than w -, final $-h$ was shifted from the end of its own word to the beginning of a following word with initial vowel in syntactically close groups: e.g., nom. sg. $*indah rīh maθih$ > $*inda rī maθi$ 'the good king' but $*indah ex^w ah begah$ > $*inda hex^w a bega$ 'the little horse' or nom. pl. $*indāh eledīh$ > $*indā heledī$ 'the deer' (OIr. *inna eilti* /iNa hel'd'i/). Final $-n$ was lost without trace before l -, r -, n -, m -, s - but changed t -, $k^{(w)}$ -, w - to d -, $g^{(w)}$ -, v - (1.3 and 4.1) and was shifted to a vowel or b -, d -, $g^{(w)}$ - at the beginning of a syntactically close following word: e.g., gen. pl. $*INDoihan rīyan$ > $*INDoya rīya$ 'of the kings', $*INDoihan weran tanawiyan$ > $*INDoya vera danaw'eya$ 'of the thin men', acc. sg. $*INDan ex^w an began$ > $*INDa nex^w a mbega$ 'the small horse' (OIr. *in n-ech mbecc*). It is not surprising that examples of this development are to be found on Ogam inscriptions: e.g., gen. pl. TRIA MAQA without $-n$, gen. sg. DECCEDDAS, DEGOS with $/-h/$ (1.5.2) and DECEDA, DEGO without it.

As the examples in the preceding paragraph show, before this crucial

phase the occurrence of non-mutation, nasalisation and lenition was mechanically conditioned by the auslaut or lack of a syntactically close preceding word: non-mutation after a juncture or a non-nasal consonant (e.g. **iNDah kaliyaxah tanawiyah* 'the thin cock' in III.4.4), nasalisation after *-n* and lenition after a vowel (e.g., **iNDā xloxā θrumbā* 'the heavy stone' in III.4.4). Henceforth, however, a final vowel might be followed by non-mutation, *h-* prefixed to a vowel, nasalisation or lenition of a consonant according to the word and/or grammatical category to which it belonged, as the examples after > in the previous paragraph show. Consequently it was no longer a question of mere allophonic variation but of grammatically significant phonemic alternations. The Primitive Irish reflexes of PIE **esyō* 'his' (masc., Skt. *asya*), **esyās* 'her' (fem., Skt. *asyās*) and **eysōm* 'their' (pl., Skt. *eṣām*) will serve to illustrate this: **eya θeyah/ex^wah* > **eya θeyā/ex^wa* 'his house/horse' but **eyāh teyah/e^wxah* > **eyā teya/hex^wa* 'her house/horse' and **eyan teyah/ex^wah* > **eya deya/nex^wa* 'their house/horse'. Thus before the loss of final *-n* or *-h* the form of the possessive pronoun itself distinguished these three instances in Primitive Irish as in other old Indo-European languages like Sanskrit, whereas after it the form of the beginning of the word following the pronoun was the differentiating factor as it has continued to be in this and similar cases in Irish since the fifth century A.D.

4.3 The next stage was the apocope, which deleted any short unstressed vowel at the end of a word, whether this had always been a short final vowel, had been shortened by 2.1(a) or had been left in absolute auslaut by loss of a following *-h* or *-n* in 4.2. A short vowel was saved from loss by a following final consonant and a long vowel was retained in absolute auslaut: e.g., **arwar* (> OIr. *arbar*), **berod* (> OIr. (-) *berat*), gen. sg. **deγ^wō* (< **deγ^wōh*; OIr. *dego*), acc. pl. **wirū* (< **wirūh*; OIr. *firu*) in 4.1 above. On the other hand, the (final short) vowel was lost in cases like voc. sg. OIr. (*a*) *fir* 'o man!' < **wir'* < **wir'-ī* < **wir-e* (< PIE **-e*); gen. sg. OIr. *fir* < **wir'* < **wir'-ī* < **wir-i* (< **wir-ī* by 2.1a); nom. sg. OIr. *fer* 'man' < **wer* < **wera* (< **werah* by 4.2).

As a result of 4.2 a final vowel could trigger any mutation depending on lexical or grammatical category and this further development brought the same situation about after a final consonant: e.g., nom. sg. **iND hex beg* (OIr. *int ech bec*) 'the little horse' < **iNda hex^wa bega* but **iND xlox θromb* (OIr. *in chloch thromm*) 'the heavy stone' < **iNda xloxa θromba* (< **iNDā klokā trumbā*); acc. sg. **iND nex mbeg* (OIr. *in n-ech mbec*) < **iNda nex^wa mbega*.

Until the apocope palatal and non-palatal variants of single consonants (and *mb*, *nd*, *ng*) were basically in complementary distribution conditioned by the flanking vowels. The lowering in 2.1(c) was responsible for one very limited exception to this in the case of a consonant preceded by *a*, since

palatalisation had been caused by a following *i* but not by *e* in this environment. Consequently, once *i* had been lowered to *e*, a marginal phonemic opposition arose between palatal and non-palatal consonants flanked by *a* and *e*: e.g., *aided* '(violent) death' < **að'eθa* (< **að'iθa* < **aðitā*) vs. *adaig* 'night' < **aðex^(w)ĩ* (< **aðek^(w)ĩ*). Nevertheless, a major consequence of apocope was the establishment of a widespread phonemic opposition between non-palatal and palatal consonants in auslaut after the originally conditioning vowel had been lost. Before the apocope *x^w*, *x'* etc. were simply allophonic variants of *x^w*, *x* etc. before palatal schwa -ĩ: e.g., nom. sg. **ex^wa*, dat. sg. **eux^wu* but gen. sg. or nom. pl. **ex^wĩ*, 3 pl. ipv. (or pres. ind. conj.) **berod* but 3 pl. pres. ind. (abs.) **berod*ĩ. Once apocope had reduced these to **ex*, **eux* and **ex'* (> OIr. *ech*, *euch*, *eich*), **berod* (> OIr. *berat* 'let them bear') **berod'* (> OIr. *berait* 'they bear') respectively, the basic differentiating factor became the quality of the final consonant in place of the nature of the final vowel.

5.1 COMPENSATORY LENGTHENING AND SYNCOPE. As a result of 2.1(a) the only long unstressed vowels to survive in Primitive Irish will have been in absolute final position (after loss of *-h* by 4.2). Since short vowels in absolute auslaut had been lost by the apocope, there will no longer have been phonemic distinctions of length in Primitive Irish unstressed syllables: all internal unstressed vowels were short and all final unstressed vowels long. Before long, however, new internal unstressed long vowels were created by compensatory lengthening in the wake of loss of a dental or guttural fricative between a vowel and *l*, *r* or *n* (details of the combinations involved in GOI 78-9): e.g., OIr. *cenél* 'race' < **k'en'eθl* < **kenetlom* (OW *kenetl*); OIr. *úan* 'lamb' < **ōn* < **oγn* < **ogno-s* (MW *oen*; Lat. *agnus*); OIr. *áin* 'driving' (verbal noun of *agid*) < **aγ'n'* < **ag-ni-s*; OIr. *én* 'bird' < **eθn* < **et-no-s* (MW *ed(y)n*; IE **pet(h₂)-* 'fly', Lat. *penna* < **pet-nā*). The lost consonant left rounding as well as compensatory lengthening behind after *i* and/or before a palatal consonant: e.g., 1 sg. *ad:gén*, *-aithgén* 'I recognised' < **-g'eγn* < *-gegna* vs. 3 sg. *ad:géuin*, *-aithgéuin* '(s)he recognised' < **-g'eγ'n'* < **-gegne*, nom. sg. *én* vs. gen. sg. *éuin* or *éoin* < **eθ'n'* < **eθni* < **etnī*, 3 pl. *ar-a:chiurat* 'they will perish' < **-kixreod* < **kixriyod* < **kikrīsont(i)*. The fricative seems to have been restored on occasion through morphological pressure as in the case of verbal noun *fognam* 'serving' or prot. *-fognai* 'serves' (for expected **-fón-*) corresponding to deut. *fo:gní*.

Since its failure to affect *síl* 'seed' < **sīlan* < **sīlom* etc. demonstrates the inapplicability of lowering to long vowels, it follows from examples like *muinél* 'neck' < **mun'exlah* < **moniklos*, *célaid* 'will conceal' < **kexlaθĩ* < **kiklāseti*, *-cúalae* 'heard' < **kōle* < **koxlē* < **kuxlow'* < **kuklowe* (Skt. *śuśrāva*) that the compensated loss of certain fricatives before a liquid or

n occurred after 2.1(c). Consequently there is much to be said for Greene's (1973, 132-3) view that this development postdated the apocope. Thurneysen's (*GOI* 67) simple rule that syncope deleted any post-tonic vowel, whether long by compensation or short, was objected to for the sound reason that 'this does not hold good for the new long vowels..., as our example *toscélad* shows' (Greene, 1973, 134; < **-sk^weθl-*). One might further note unsyncopated dat. pl. *cenélaib* 'races' < **ken'eθlov'*, *muinélaib* < **mun'exlov'* or regular retention of the *é* of certain futures as in prot. *-tibérad* 'would give', but there also seem to be instances of syncope such as augmented 1 sg. subj. *-árladar* 'I may address' < **-að-r̥laðar* < **-að-ro-γlāðār* or ipf. subj. 1 sg. *do:róininn* 'I might do' < **de-ro-γn-eN'* vs. prot. *-dernainn* < **-de-r̥-n-eN'* < **-de-r̥n-* < **-de-ro-γn-*, which indicates that syncopated *do:rigni* 'has done' was the regular OIr. outcome of **de ri-γēni* < **de ro-γeγni* and the variant *do:rigéni* due to the analogy of prot. *-deir[†]géni* (similarly fut. 3pl. *-dignet* 'will do' < **-di-γēnad* < **-de-γiγnād* vs. *-digénat* with clear fut. *é* under the influence of deut. *do:génat*).

It thus looks as though compensated loss of *γ* before *r/l/n* occurred before the syncope (5.3), which consequently affected the resultant long vowel in the post-tonic syllable whereas there was apparently no syncope of a compensatorily lengthened vowel resulting from the disappearance of a fricative such as *θ* or *x* before *r* (*x* only), *l* or *n*. The obvious explanation for the difference is that the latter clusters had not yet been simplified at the time of syncope, the upshot being that the vowel of the post-tonic syllable was retained before such a cluster as before *cht* (e.g. *cumachtach* 'powerful', dat. pl. *cumacht[†]gaib*, comp. *cumacht[†]gu* with loss of the third instead of the second syllable; cf. *cenélach* 'racial', fem. nom. pl. *cenél[†]cha*) and only later lengthened in compensation for the subsequent loss of the fricative. Some support may come from a special case involving hiatus, namely OIr. *biáil* 'axe' (Sg. 46^b6), gen. *béla* (long vowel fixed by rhyme and consonance in a quatrain in *ZCP* 1, 455), if < **beaθ'l* < **biyatlis* (< **beya-*, root **b^heyh* 'strike') and syncopated **be[†]θlō* < **biyatlōs* respectively (leaving the extraordinarily difficult British forms out of account; see Schrijver, 1995, 323). That said, lack of syncope in *gabál* 'taking' < **gavaγlā* (MW *gauael*), gen. sg. *gabálae* would then have to be ascribed to analogical restoration of the long-vowel suffix throughout the paradigm, a possibility that might then be entertained in the case of *cenélaib* etc. Pending a badly needed collection and evaluation of all relevant forms, we may provisionally posit two stages, namely (a) pre-syncope compensated loss of voiced *γ* before *r/l/n* and (b) post-syncope compensated loss of voiceless *x* and *θ* at least in roughly the same environment. However, it also seems just possible on present evidence (but only if the explanation of *béla* just offered is not accepted) to operate with a general compensatory simplification of the relevant

clusters under (a) and subsequent analogical tendencies to restore the long vowel. If at least some simplifications of this type postdated the syncope, they must nevertheless have been completed before the subsequent development of an anaptyctic vowel in front of interconsonantal or postconsonantal final *r*, *l* or, under certain circumstances, *n* (V.1.2). Obviously **ken'eθl* must have become **kenēl* before **araθr* with its unsimplified cluster became **araθə̃r* (OIr. *arathar* 'plough') after syncope had applied.

It will emerge later (V.4.1) that the new *ē* due to compensatory lengthening here and in 1.3 was different from the old *ē* probably inherited from Proto-Celtic. It seems likely that the phonemes in question were mid low /*ē*/ by compensatory lengthening and older mid high /*ē̄*/ and it may be reasonably assumed (see VI.2.7) that there was a similar difference between a new mid low /*ḡ*/ by compensatory lengthening and older mid high /*ḡ̄*/ (< PC *ow* by III.5.7). This implies a shift from the inherited system on the left to that on the right below.

ī	ū	ī	ū
ē	ō	ē̄	ō̄
		ḡ	ḡ̄
	ā		ā

5.2 When unstressed *e* or *i* stood between two homorganic consonants (e.g., two labials or gutturals) the first of these was subject to dissimilatory loss if preceded by a stressed vowel. In the case of stressed *a* or *o* a diphthong (*ai/ae*, *oi/oe* respectively) resulted from contact with the unstressed front vowel: e.g., OIr. disyllabic *deac* 'plus ten' < **de[x]ʲeg* (< **deken-kan* < *-kom* 'with ten' in numerals 11-19; McCone, *SnaG*, 204-5; cf. Schrijver, 1993b), deut. *con:imthet* 'accompanies' vs. verbal noun *coimthecht* 'accompanying' < **ko[ṽ]ʲim'b'iθ'ext* or deut. *ro:cechain* 'has sung', *do:tét* 'comes', *fo:lilsitis* 'they would endure' vs. prot. *-róechain* < **ro[x]exan'*, *-táet* < **ta[θ]ed*, *-foilsitis* < **wo[l]ʲilüs'ed'is'*.

5.3 The next step was syncope, which affected every second non-final syllable, taking the stressed syllable as first in the sequence, and had far-reaching grammatical consequences. As examples such as *coim[†]thecht* < **coim'b'ʲ[ɪ]θ'ext* and *-foil[†]sitis* < **woil'ʲ[ɪ]s'ed'is'* above show, syncope came after the dissimilation in 5.2. The principal effect of the basic syncope rule was to eliminate the second syllable of a three- or four-syllable word and also the fourth syllable of a five- or six-syllable word: e.g. (lost syllable marked [†]), OIr. nom. sg. *lepuid* 'bed' < **L'ebuθ'* vs. gen. sg. *lep[†]tho* < **L'eb[o]θo*; OIr. nom. pl. *carait* 'friends' < **kared'* vs. acc. pl. *cair[†]tea* < **kar'ʲ[ɪ]dā* < **kareda*; OIr. *prid[†]chid* 'preaches' < **p'r'íð'ʲ[ɪ]xaθ'* < **preðixaθi* < Lat.

pr(a)edicat; OIr. 3 pl. deut. *for:berat* 'they increase' < **wor b'erod* vs. prot. *-foirb[†]ret* < **wor'b' [i̯]rod* < **worberod*; OIr. 3 sg. deut. *con:os[†]na* 'rests' < **kon os[a]nā* (< **u(s)-anāh*) vs. prot. *-cum[†]sana* < **ku̯[o]sanā* (< **ko̯-u(s)-anāh*); OIr. nom. pl. *brith[†]emain* 'judges' < **b'r'iθ'[e]a̯von'* < **briθi-ya̯voneh* vs. acc. pl. *brith[†]em[†]na* < **b'r'iθ'[e]a̯v[o]nā* < **briθiya̯vonāh*; OIr. 3 pl. pret. deut. *do:rósc(†c)aisset* 'stood out' < **de rōsk[o]xisod* vs. prot. *-der[†]scaig[†]set* < **der[o]skox'[i̯]sod*.

As indicated in 4.3, the first significant phonemicisation of palatal con-sonants came about in final position after the apocope of a conditioning front vowel. What had hitherto been an allophonic alternation in internal post-tonic syllables between non-palatal consonants before a back vowel and palatal variants of the same before *ī* from a front vowel in this position (3.5) was now phonemicised by loss of the conditioning vowel. Henceforth palatalisation was phonemic at the end of internal (e.g., acc. pl. /**kar'dā*/ 'friends', 3sg. pres. /**prið'xaθ'*/ 'preaches') as well as of final closed syllables (e.g., 3pl. pres. /*berod'*/ 'they bear' in 4.3).