In Irish, events in the rhythmic field exert an influence over those in the articulatory field.[1] Mhac an Fhailigh (1968/80: 57) notes for Erris Irish that:

> Long vowels in unstressed syllables are little more than half-long...[but] retain their quality unchanged...In a stressed syllable a short vowel always has clear quality, that is to say it is clearly back or front, open or close, never obscure. A short vowel in an unstressed syllable of a word is shorter than in a stressed syllable. Moreover, it becomes a central (or centralised) vowel with obscured quality.

Ohala (1989: 179) explains why this should be so in terms of elasto-inertial constraints on the vocal tract:

> The amplitude of jaw opening decreases when the frequency or rate of gestures increases, i.e., when less time is allotted to it...Although more mobile articulators may be capable of faster movements, they, too, have their limits...If the rate of speaking is increased, as it is during unstressed syllables... articulatory positions may not be achieved as well as when more time is devoted to the gesture. This is the well-known principle of 'undershoot'.

Since only long vowels retain their distinctive quality regardless of stress, the discussion, below, will examine short vowels under both conditions.

In addition to this, Irish vowels display a considerable degree of variation largely due to the fact that all Irish consonant clusters within words are either palatalised or labiovelarised. That is, they are produced with the dorsum advanced either toward the palate with lips spread, or toward the velum with lips rounded. In the discussion of the syllable periphery, below, consonantal palatalisation and labiovelarisation will be interpreted as the features [front-spread] (y) and [back-round] (w), respectively, which together constitute two options of a POSTURE system.

The syllable is, therefore, enacted within — or against the background of — a transition of two POSTURE states, which means that there are four possible transition environments in which syllables occur: y>y, y>w, w>y and w>w.[2] This can be exemplified by the representations, below, of the words geis {g,es,} 'taboo', geab {g,ab} 'chatter', tuig {†ig,} 'understand' and bos {bos} 'palm, slap'.[3]

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[1] This may well be a distinguishing characteristic of what Pike (1967) has referred to as 'stress-timed' languages, though the claim that *timing* is the defining characteristic has been challenged by measurements carried out by Roach (1982). This field interaction may relate to the very abstract notion of symmetry. Edelman (1992: 203):

> [I]f one considers a field and if one wants to achieve [global] invariance under a change of local symmetry, things must be arranged so that *another* field will act to compensate exactly for any local changes introduced by the first operation.

[2] This can be compared with the analysis of the Rhymes of Peking syllables by Halliday (1992), where the transition of two POSTURE states is interpreted as occurring *within* the syllable.

[3] A synchronic and diachronic variant of geis is geas pronounced {g,œs}. Compare English gas! 'great, wonderful' in the context of its origins in the Beat counterculture. Compare Irish bos with English boss around.
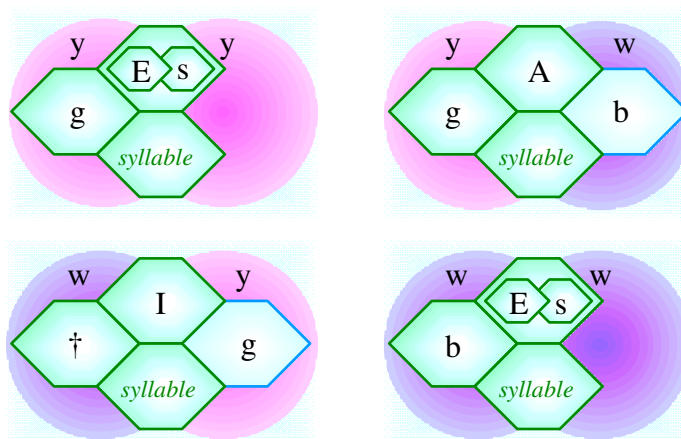
The binding, cohesive nature of these features is more explicit in words expressed by more than one syllable, as exemplified by daideo {∂a∂,oː} 'grandfather', lasair {‡as↘,} 'flame, blaze', deacair {∂,ak↘,Ú ∂,ok↘,} 'hard(ship), difficult(y), daingean {∂aN,g,´n} 'steadfast, firm', and greimlín {g,↘,em,l,iːn,} 'grip'-DIMINUTIVE: 'adhesive plaster'.[1]

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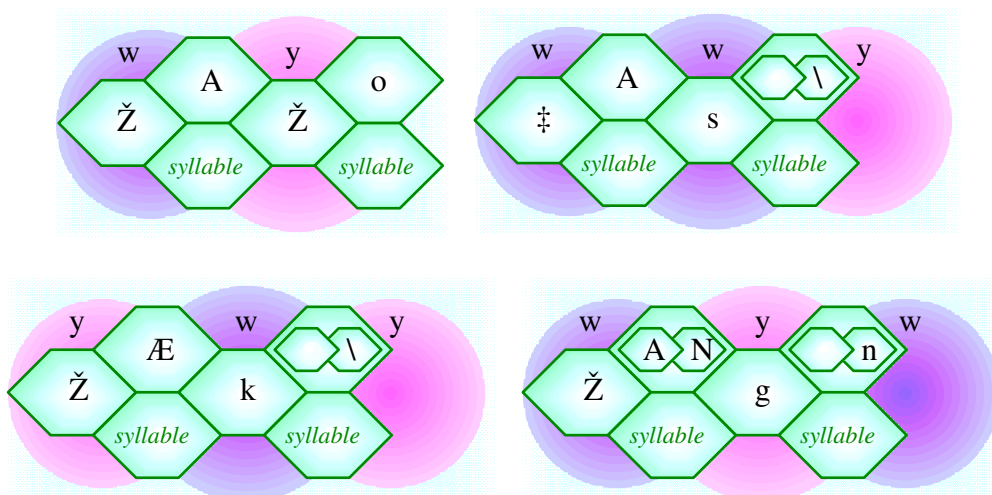
[1]   Compare Irish daideo with English daddy-o. (Consider also cuibhiúil which can be pronounced {kiːuːl,} and means 'proper, seemly, decent'.) Compare Irish deacair, meaning 'hard', which is pronounced {∂,œk↘,} in the absence of initial consonant mutation and {yœk↘,} when lenited, as it is when it follows feminine nouns like obair 'work, labour' with Australian English hard yakka 'hard work'. In Early Modern Irish daingean was written dingim which suggests the pronunciation {∂,ÈN,[g,]ëm,}. Compare, therefore, fíor-daingean 'very steadfast, very firm' and fear daingean 'a steadfast man' with Australian English fair dinkum 'true, genuine'. Compare Irish greimlín with English gremlin in the works and gum up the works together with the wry notion of engines being held together by rubber bands. Consider also its phonetic structure as a gnome/goblin hybrid.
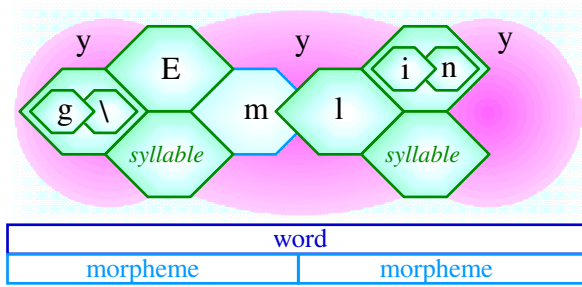
In the following discussion, it will be argued that both long and short Irish vowels occupy a single phase of the Rhyme: the Peak. Long Peaks will be examined first.

3.2.2.2.1.1 Long Peaks

The table below lists Irish long vowels and the diphthongs[1] /i´/ and /u´/, along phonemic lines. Each cell contains the orthographic representation in Chicago font with the phonetic representation below; each row gives the phonetic variation of each phoneme; and each column specifies the surrounding environment in terms of consonant POSTURE. The phonetic values are those of the dialect spoken in Erris, County Mayo as described by Mhac an Fhailigh (1968/80: 9-23, 45-7).

DDDDD

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[1] The diphthongs /ay/ and /aw/ will be treated separately below.

PHONEME	POSTURAL ENVIRONMENT			
	y>y	y>w	w>y	w>w
/i:/	í {i:}	ío {i:´}	uí/oí/aí/aoi {ᵩÈ:}	uío/aío/ao {ᵩÈ:´}
/e:/	éi {e:}	éa {e:´}	aei {ᵩe2:}	ae {ᵩe2:´}
/u:/	iúi {Èu9:È}	iú {Èu9:}	úi {u9:È}	ú {u:}
/o:/	eoi {ᵉo9:È}	eo {ᵉo9:}	ói {o:È}	ó {o:}
/a:/	eái {ᵉa:È}	eá {ᵉa:}	ái {A:È}	á {A:}
/i´/	iai {ië}	ia {i´}		
/u´/			uai {uë}	ua {u´}

Table 3.9 Irish Long Peaks (Phonemic Interpretation)[1]

The reason for including the variation attributable to surrounding consonant POSTURE can be seen in the last two rows. The phonemes /i´/ and /u´/ are in complementary distribution with regard to these environments. For both, the realisation is a diphthong gliding from a vowel consistent with the preceding consonant POSTURE to a central vowel varying from {´} before [back-round] consonants, to the more advanced {ë} before [front-spread] consonants.[2]

Because the first element of each of these diphthongs is predictable from the preceding consonant POSTURE, it is not the distinguishing feature. What is not predictable from the surrounding environment and what, therefore, *does* distinguish these Peaks is the central quality of the second diphthongal element. Accordingly, these two diphthongs will be reanalysed, below, as a single [central-neutral] vowel category.

The motivation for the prolongation of the preceding consonantal POSTURE feature can be interpreted as the need to distinguish this vowel set from the short obscure vowels, which are reduced to a central vowel, varying slightly {ëÚ´◊Ú´}, depending on the surrounding POSTURE features. (See the discussion of obscure vowels, below.)

Because the discussion of short Peaks, below, will demonstrate that the difference between long and short Peaks rests on the presence or absence, respectively, of a

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[1] Throughout this chapter, the *phonetic* symbols {œ}, {a} and {A} indicate open (low) vowels that are front, central and back, respectively.

[2] The sole exception involves /i´/ before word-initial /ʌ/ which is now never palatalised.

POSTURE feature, the length symbols will be dispensed with for the rest of this analysis. Accordingly, the set of long Peaks can be classified according to eight features, as listed in the table, below.

close	front-spread [i]	í // ío // uí/oí/aí/aoi // uío/aío/ao {i: Ú i:´ Ú ⱷÈ: Ú ⱷÈ:´}
	back-round [u]	iúi/iú/úi/ú {Èu9:È Ú Èu9: Ú u9:È Ú u:}
	central-neutral [´]	iai/ia/uai/ua {ië Ú i´ Ú uë Ú u´}
open	front-spread [e]	éi/éa/aei/ae {e: Ú e:´ Ú ⱷe2: Ú ⱷe2:´}
	back-round [o]	eoi/eo/ói/ó {ᵉo9:È Ú ᵉo9: Ú o:È Ú o:}
	central-neutral [a]	eái/eá/ái/á {ᵉa:È Ú ᵉa: Ú A:È Ú A:}

Table 3.10 Irish Long Peaks Categorised By Features

The terms [front], [back] and [central] refer to dorsal articulation, and the terms [spread] [round] and [neutral] to labial articulation; the terms [close] and [open] refer to the degree of opening of the articulatory channel. The conflation of features indicates that said features always co-occur.

A system network reflecting this categorisation of long Peaks can be devised by modelling each set of disjunctive features as a system of choice, as in the figure below. The features [oral] and [continuant] are assumed, or preselected, as is the feature [ambient], which subsumes both [labial] and [dorsal] ALIGNMENT (see below).[1]
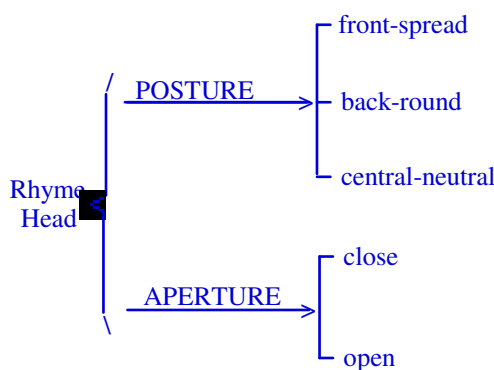

Figure 3.7 Irish Long Peak Potential As System Network (Provisional)

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[1] The term [ambient] is preferred to the more familiar feature [peripheral] in order to avoid confusion with syntagmatically peripheral consonants — those with a demarcative function (see Chapter 4).

In the above system network, the disjunctive set {front-spread, back-round, central-neutral} has been interpreted as the set of features or states of the system POSTURE, and the disjunctive set {close, open} has been interpreted as the set of features or states of the system APERTURE.

These systems can be represented in a wider context as subsystems of the system of general articulatory potential. This is depicted in the following diagram wherein unavailable systems and features are *italicised*.
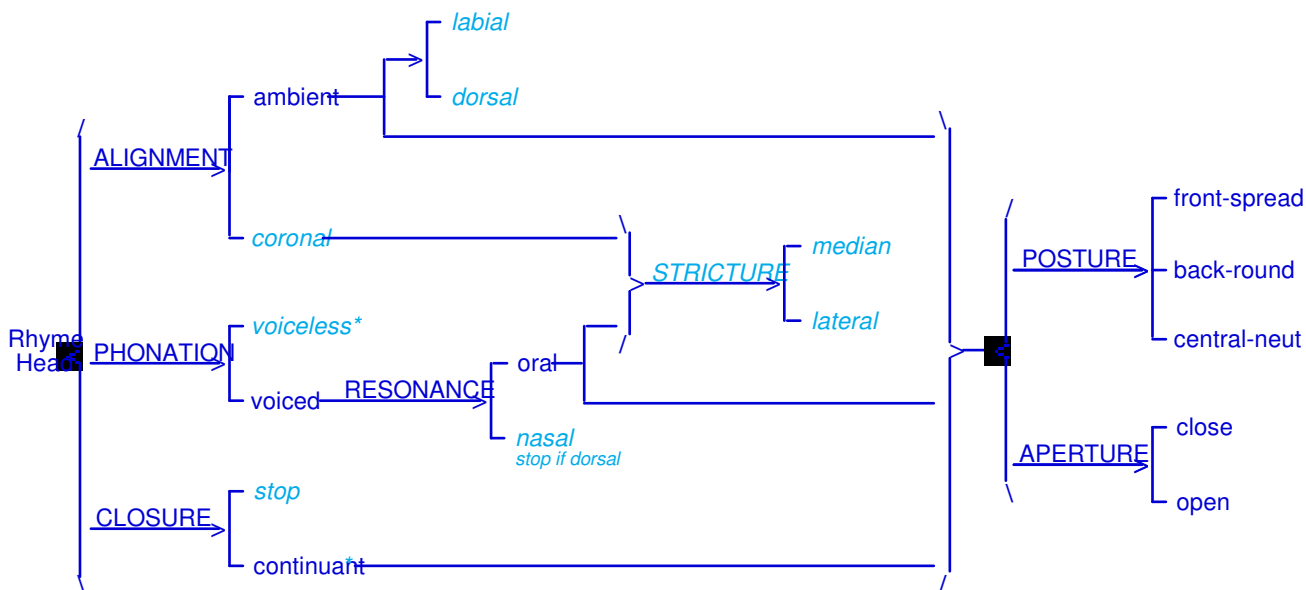

Figure 3.8 Irish Long Peak Potential As System Network (Provisional)
*(* can be co-selected in the absence of ALIGNMENT features)*

This network includes two general changes to the systems previously constructed to generate consonants. First, the feature [ambient] has been incorporated as a term in the ALIGNMENT system. The features [labial] and [dorsal] now become terms in a more delicate system whose entry condition is the selection of the feature [ambient]. Second, the features [oral], [continuant] and [ambient] provide the conjunctive entry condition for the systems of POSTURE and APERTURE that generate long Peaks. In other words, the POSTURE and APERTURE systems become available only if the conjunction of features [oral], [continuant] and [ambient] is selected.

Instances of words realised by syllables with each of the six long Peaks in each of the four POSTURE environments are tabled below.

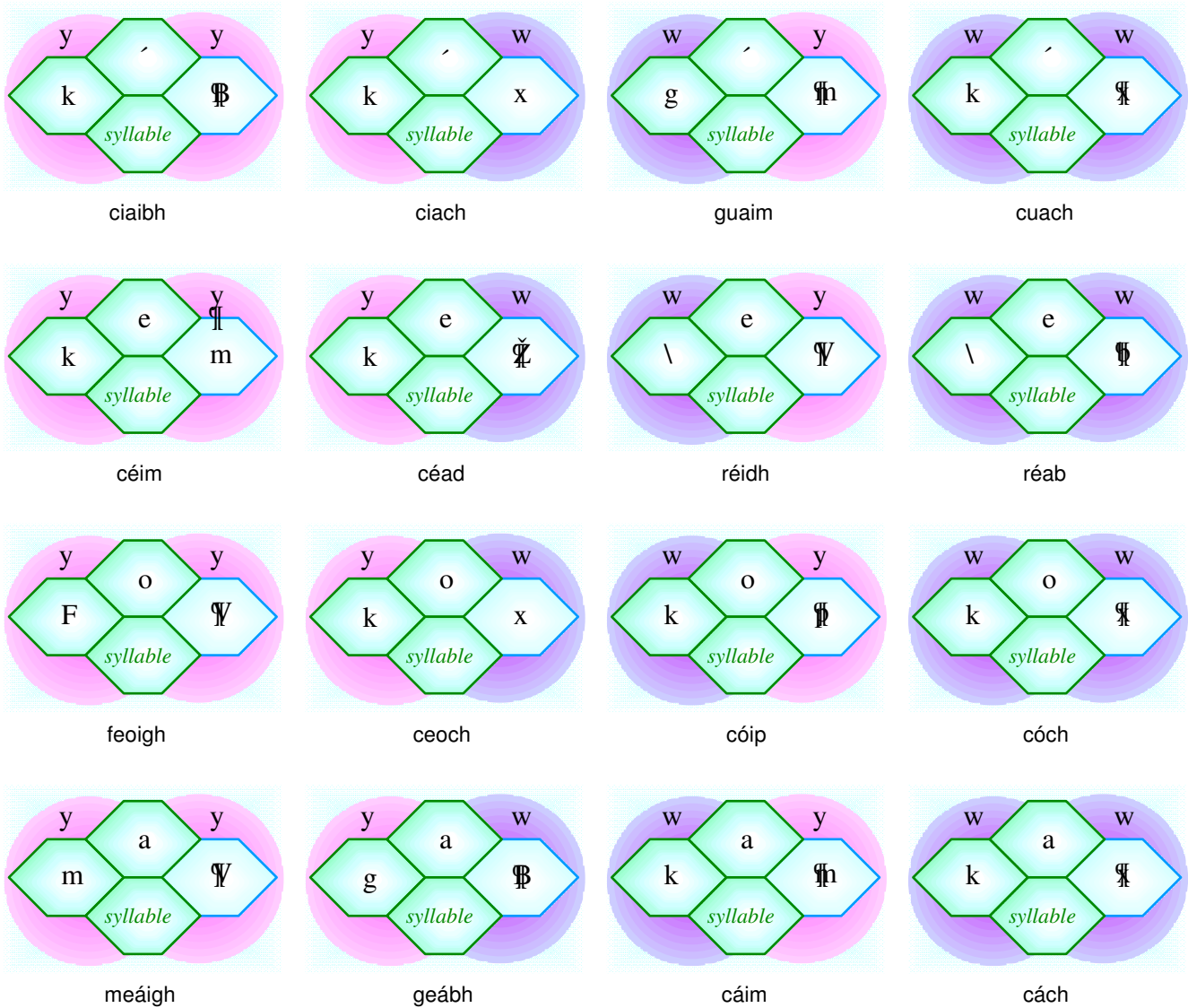|			POSTURAL ENVIRONMENT			
			y > y	y > w	w > y	w > w
close	front-spread	i	cíb 'sedge'	cíoch 'breast'	maígh 'boast'	caoch 'blind'
	back-round	u	liúigh 'yell'	ciúb 'cube'	cúig 'five'	cúb 'fold'
	central-neutral	´	ciaibh 'age' [dat pl][1]	ciach 'gloom'	guaim 'control'	cuach 'wrap'
open	front-spread	e	céim 'degree'	céad 'hundred'	réidh[2] 'level'	réab[2] 'rip'
	back-round	o	feoigh 'decay'	ceoch 'misty'	cóip 'rabble'	cóch 'squall'
	central-neutral	a	meáigh 'balance'	geábh 'run'	cáim 'blemish'	cách 'everyone'

Table 3.11 Instances Of Irish Words Realised By Long Peaks

Given the above analysis, these can be represented as follows:

cíb

cíoch

maígh

caoch

liúigh

ciúb

cúig

cúb

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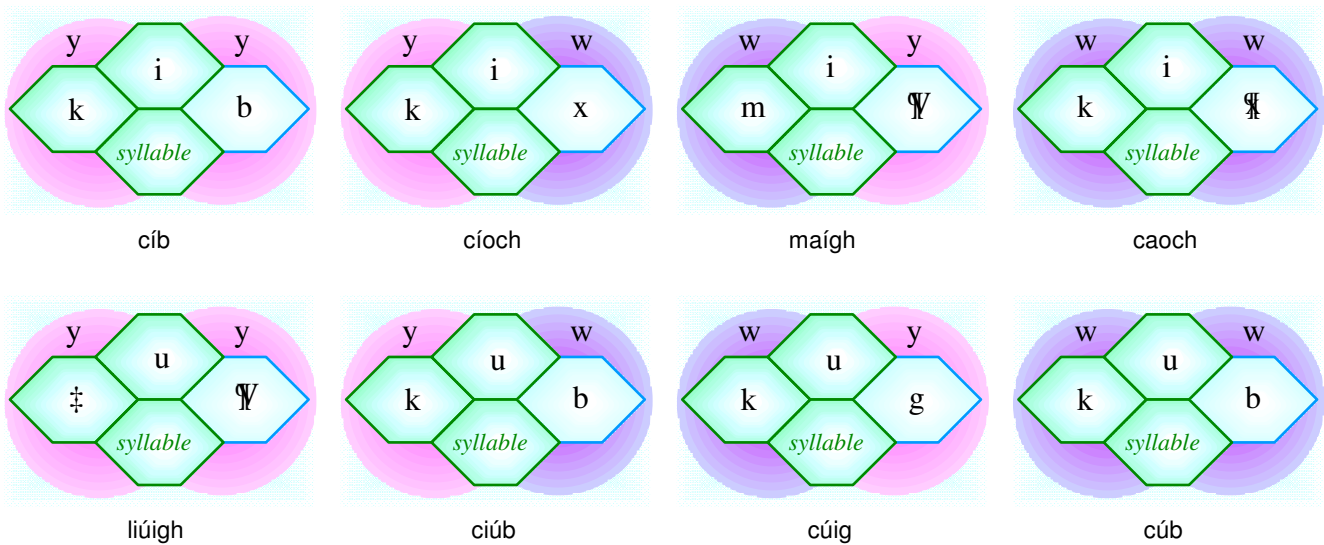
[1] Dative plural of cian. The [close, neutral] Peak has proved unstable, historically, in monosyllables in the y > y environment, and has tended to become [open, front]. This is evinced by words like cian where the [dative, singular] form is céin, where *ciain would have been predicted on the basis of regularity and simplicity.

[2] The Onset /V is not palatalised in word-initial position.

ciaibh

ciach

guaim

cuach

céim

céad

réidh

réab

feoigh

ceoch

cóip

cóch

meáigh

geábh

cáim

cách

3.2.2.2.1.2   Transitional Long Peaks

The table below lists the Irish diphthongs /ay/ and /aw/ along phonemic lines. Again, each cell contains the orthographic representation[1] in Chicago font with the phonetic representation below. Each column specifies the phonetic variation according to the surrounding environment in terms of consonant POSTURE. The phonetic values are those of the dialect spoken in Erris, County Mayo as described by Mhac an Fhailigh (1968/80: 22-3).

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[1] For reasons of space, not all possible orthographic renderings are presented.

	POSTURAL ENVIRONMENT			
	y > y	y > w	w > y	w > w
/ay/	eidhi	eighea	oigh/aigh/adhai	adha
	{å9i}	{å9È´}	{å2i}	{å2È´}
/aw/	eabhai/eamhai	eabha/eamha	abhai/amhai/obhai	ogha/obha/abha/amha
	{å9øÈ}	{å9ø}	{å2øÈ}	{å2ø}

Table 3.12 Irish Diphthongs /ay/ **and** /aw/ **(Phonemic Interpretation)**

The table shows that, phonetically, the initial state of these diphthongs is a half-open vowel {å} that varies along the front–back dimension according to whether the *preceding* consonant is palatalised or labiovelarised, being forward of centre {å9} in the former instance, and backward of centre {å2} in the latter (Mhac an Fhailigh 1968/80: 22-3). The fronted variants thus appear in leigheas {l,å9Ès} 'healing' and leabhar {l,å9ø\} 'book' and the backed variants in loighic {lå2ik,} 'logic' and labhair {lå2ø\,} 'speak'.

The final state of the diphthong /ay/ is [front-spread], ranging from {i} to {È} depending on whether the *following* consonant is palatalised or labiovelarised, respectively (Mhac an Fhailigh 1968/80: 22-3). For example, the first occurs in loighic {lå2ik,} 'logic', where it is followed by {k,}, and the second in leigheas {l,å9Ès} 'healing', where it is followed by {s}.

The final state of the diphthong /aw/ is [back-round], being {ø} regardless of whether the next consonant is palatalised or labiovelarised (Mhac an Fhailigh 1968/80: 23). For example, it occurs in both labhair {lå2ø\,} 'speak', where it is followed by {\,}, and in leabhar {l,å9ø\} 'book', where it is followed by {\}.

Each of these diphthongs, then, can be analysed as a transition from a state of [open] APERTURE ({å9Úå2}) to a state of either [front-spread] ({iÚÈ}) or [back-round] ({ø}) POSTURE. That is, /ay/ can be analysed as the sequence [open^front-spread], and /aw/ can be analysed as the sequence [open^back-round]. These diphthongs can be compared to /e:/, which is (simultaneously) [open] and [front-spread], and /o:/, which is (simultaneously) [open] and [back-round]. The difference between /ay/ and /e:/, and between /aw/ and /o:/, is one of timing: in /ay/ and /aw/ the POSTURE feature is slightly delayed, in /e:/ and /o:/ it is not.[1] On this basis, /e:/ /o:/ /ay/ and /aw/ can be recategorised as in the following table.

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[1] This interpretation recognises the historical origin of these diphthongs and reflects them as change in progress (synalœpha: the blending of two successive vowels into one). As the orthography suggests, /ay/ and /aw/ have generally evolved from sequences of vowel^consonant^vowel: /ay/ from [open]^[y]^{´} and /aw/ from [open]^[w]^{´} (synæresis: syllable conflation resulting in a diphthong). It also recognises that variation like [Fåøl´m,ÚFo:l´m,] reported for foghlaim 'learning' (Foclóir Póca 1990: 366) are a simple matter of the timing of the features [open] and [back-round].

open	front-spread	undelayed	éi/éa/aei/ae
			{e: Ú e:´ Ú ᵠe2: Ú ᵠe2:´}
		delayed	eidh/eigh/oigh/aigh/adha
			{å9i Ú å9È´ Ú å2iÚ å2È´}
	back-round	undelayed	eoi/eo/ói/ó
			{ᵉo9:È Ú ᵉo9: Ú o:È Ú o:}
		delayed	abha/amha/obha/ogha
			{å9øÈ Ú å9ø Ú å2øÈÚ å2ø}

Table 3.13 Irish [open] Long Peaks

A system network reflecting the above categorisations of [open] long Peaks can be devised by modelling each set of disjunctive features [delayed] and [undelayed] as a system of choice, as in the figure below. The features [oral] and [continuant] are again assumed, or preselected, as is the feature [ambient], which subsumes both [labial] and [dorsal] ALIGNMENT (see below).
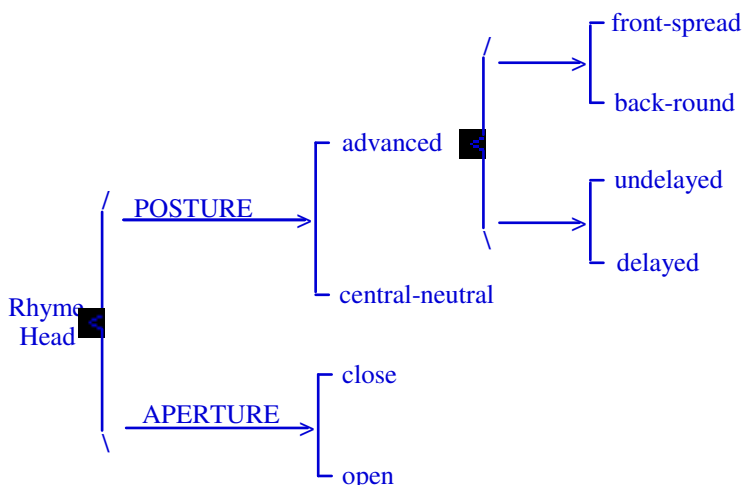

Figure 3.9 Irish Long Peak Potential As System Network

This network includes two general changes to the systems previously constructed to generate long Peaks. First, the feature [advanced] has been incorporated as a term in the POSTURE system. The disjunctive features [front-spread] and [back-round] now become terms in a more delicate POSTURE system whose entry condition is the selection of the feature [advanced]. Second, the disjunctive features [delayed] and [undelayed] are incorporated conjunctively as a more delicate POSTURE system whose

Incidentally, sequences of [close]^[y]^{´} tend to lead to /iː/ and sequences of [close]^[w]^{´} to /uː/ (synizesis: syllable conflation resulting in a monophthong). For example, former buidhe {bÈyë} 'yellow' has become buí {bi:} and former siobhal {Søwål} 'walking' has become siúl {Su:l}.

entry condition is the selection of the feature [advanced]. Consequently, if the POSTURE feature [advanced] is selected, then either [front-spread] or [back-round] and either [delayed] or [undelayed] must be co-selected.

These systems can be represented in a wider context as subsystems of the system of general articulatory potential. This is depicted in the following diagram wherein unavailable systems and features are *italicised*.
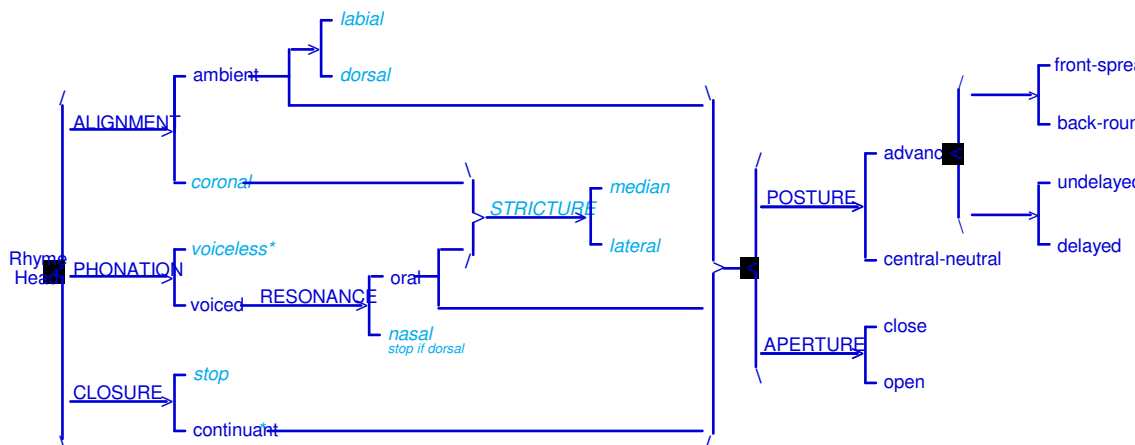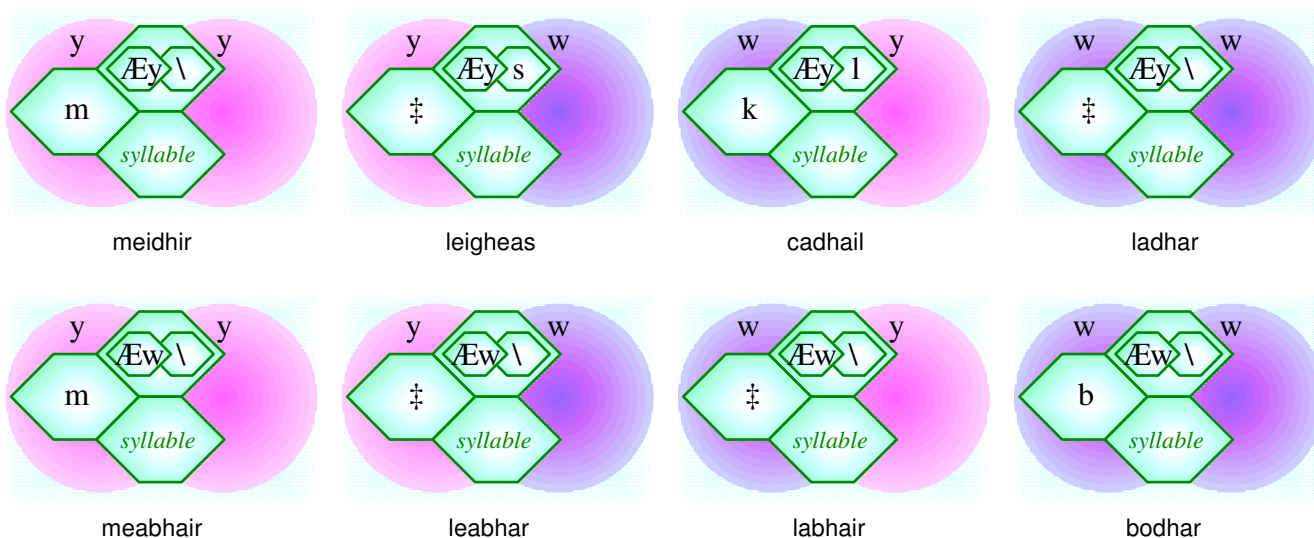

Figure 3.10 Irish Long Peak Potential As System Network
(* can be co-selected in the absence of ALIGNMENT features)

Instances of words realised by syllables with each of these two [delayed] POSTURE long Peaks in each of the four POSTURE environments are tabled below, where the symbol Æ represents the feature [open] — see further below — and the symbol ^ indicates that the APERTURE and POSTURE features are in sequence.

	POSTURAL ENVIRONMENT			
	y > y	y > w	w > y	w > w
Æ^y	meidhir 'merriment'	leigheas 'healing'	cadhail 'coil'	ladhar 'toe'
Æ^w	meabhair 'mind'	leabhar 'book'	labhair 'speak'	bodhar 'deaf'

Table 3.14 Instances Of Irish Words Realised By Long Peaks With [delayed] POSTURE

Given the above analysis, these can be represented as follows:

y   Æy \ y   y   Æy s w   w   Æy l y   w   Æy \ w

m   ‡   k   ‡

syllable   *syllable*   *syllable*   *syllable*

meidhir   leigheas   cadhail   ladhar

y   Æw \ y   y   Æw \ w   w   Æw \ y   w   Æw \ w

m   ‡   ‡   b

syllable   *syllable*   *syllable*   *syllable*

meabhair   leabhar   labhair   bodhar

3.2.2.2.1.3   Short Peaks

The quality of short syllable Peaks varies according to the location of the syllable in the Rhythmic field. Syllables coinciding with the Peak phase — or Ictus — of the stress wave are [salient], and the short Peaks of such syllables will be labelled [distinct]. All other syllables are [weak], and the short Peaks of such syllables will be labelled [obscure].

In the discussion below, [distinct] short Peaks will be interpreted as those in which the features of the vowel POSTURE system are neutralised, and [obscure] short Peaks will be interpreted as those in which the features of both vowel systems, POSTURE and APERTURE, are neutralised. The [distinct] short Peaks of [salient] syllables will be examined first.

3.2.2.2.1.3.1   **Distinct**

The table below lists Irish [distinct] short vowels along phonemic lines. Again, each cell contains the orthographic representation in Chicago font with the phonetic representation below; each row gives the phonetic variation of each phoneme; and each column specifies the surrounding environment in terms of consonant POSTURE; and the phonetic values are those of the dialect spoken in Erris, County Mayo as described by Mhac an Fhailigh (1968/80: 9-23, 45-7).

PHONEME	POSTURAL ENVIRONMENT			
	y>y	y>w	w>y	w>w
/i/	i {È}	io/iu {ÈÚø}	ui {øÈÚøÈ}	
/u/				u {ø}
/e/	ei {e}	ea {e2Úo9}		
/o/			oi {øe2Úo9È}	o {o}
/a/	eai {œ}	ea {œÚaÚA}	ai {œÚA}	a {A}

Table 3.15 Irish Distinct Short Peaks (Phonemic Interpretation)

The [distinct] short Peaks of Irish, display a different pattern to the long Peaks. First, there are half as many [distinct] short varieties (12) as long (24), and second, there are two complementary distributions of phonemes. The phoneme /i/ occurs in all environments except that in which /u/ appears, and vice versa. The same is true for /e/ and /o/.

It can also be seen that the POSTURE for every vowel is predictable from the surrounding consonant POSTURE. In the first column, where both surrounding POSTURE features are [front-spread], the Peaks are all [front-spread]. In the fourth column, where both surrounding POSTURE features are [back-round], the Peaks are all [back-round]. In the second and third columns, where there is a mixture of surrounding POSTURE features, the Peaks vary between [front-spread] and [back-round].

Because POSTURE is predictable from the environments in which [distinct] short Peaks occur, it is not a distinctive or defining feature of them. Irish [distinct] short Peaks are only distinguished by APERTURE, but, unlike long Peaks, there are three degrees, not two. The table below lists all the short vowel varieties according APERTURE.

		i/io/iu/ui/u
close (I)		{È Ú øÈ Ú øÈ Ú ø}
open (Æ)	narrow (E)	ei/ea/oi/o
		{e Ú e2 Ú o9 Ú øe2 Ú o9È Ú o}
	wide (A)	eai/ea/ai/a
		{œ Ú a Ú A}

Table 3.16 Irish Distinct Short Peaks Categorised By Features

The table requires two clarifications. First, the feature [open] now includes two subcategories [narrow] and [wide]. Second, the symbols I and Æ will be used for the features [close] and [open], respectively, and the symbols E and A will be used for the features [open: narrow] and [open: wide], respectively, in the representations that follow.[1]

The motivation for retaining the feature [open] relates to an asymmetry in this system. Two of the categories are each relatively rare in one of two environments. First, Peaks with the feature [narrow] are rare in the environment y > w, which is echoed by the fact that it has no distinguishing orthographic symbol. Nevertheless it does occur in a limited number of high frequency words like beag 'small', and some forms of the substantive verb bí, such as the CONDITIONAL bheadh and a FUTURE form bheas.

Second, Peaks with the feature [wide] are rare in the environment y > y, occurring almost exclusively in a limited number of loanwords such as leaid 'lad', ceaig 'keg', and seaicéad 'jacket'.

If these two rare cases were to be excluded, then the distinction between [narrow] and [wide] APERTURE is lost in the y > environments, and use of the subsuming feature [open] would acknowledge this neutralisation.[2]

A system network reflecting the above categorisations of [distinct] short Peaks can be devised by modelling each set of disjunctive features as a system of choice, as in the figure below. Again, the features [ambient], [oral] and [continuant] are assumed, or preselected.

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[1] Note that the feature labels {high mid low} would be inappropriate terms in a system of APERTURE because they refer to *tongue height*, not the degree of oral cavity *aperture*.

[2] This would prove useful in simplifying a phonological description of Irish nominal morphology where the expression of CASE distinctions includes the opposition of ei ([open: narrow]) and ea ([open: wide]), as exemplified by the [nominative, singular] form geis {feS} 'taboo', and the [genitive, plural] form geas {$f\text{œ}s$}.
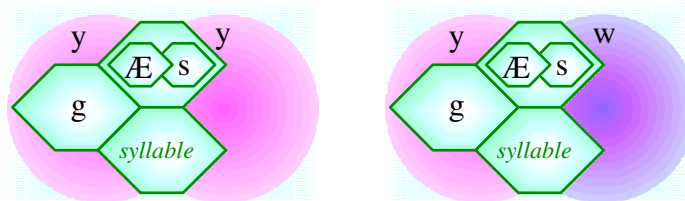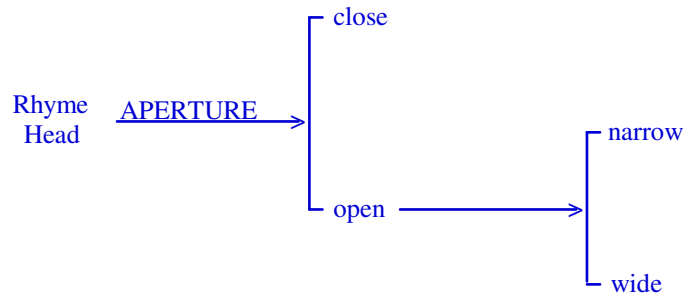
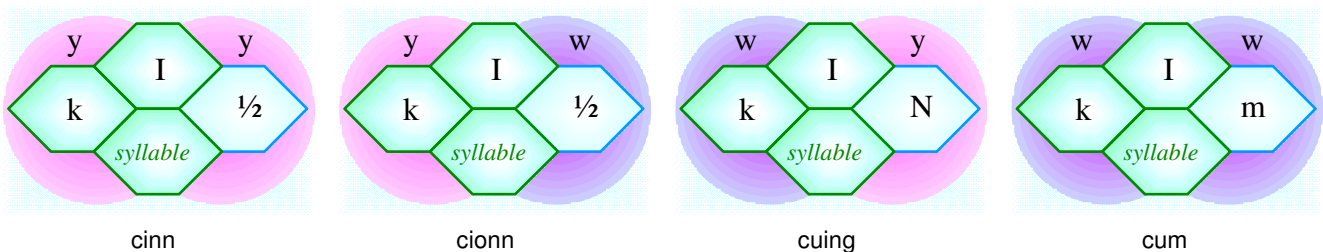**Figure 3.11 Irish Short Peak Potential As System Network**

In the above system network, the disjunctive set {close, open} has again been interpreted as the set of features or states of the system APERTURE, and the disjunctive set {narrow, wide} has been interpreted as a more delicate system whose entry condition is the selection of the feature [open].

Instances of words realised by syllables with each of the three [distinct] short Peaks in each of the four POSTURE environments are tabled below.

		POSTURAL ENVIRONMENT			
		y > y	y > w	w > y	w > w
close		cinn	cionn	cuing	cum
		'surpass'	'head' [dative sg]	'bond'	'form'
open	narrow	deich	beag	coill	coll
		'ten'	'small'	'forest'	'hazel'
	wide	meaig	feag	maig	mac
		'magpie'	'rush'	'tilt'	'son'

Table 3.17 Instances Of Irish Words Realised By Short Peaks

Given the above analysis, these can be represented phonologically as follows:

cinn   cionn   cuing   cum
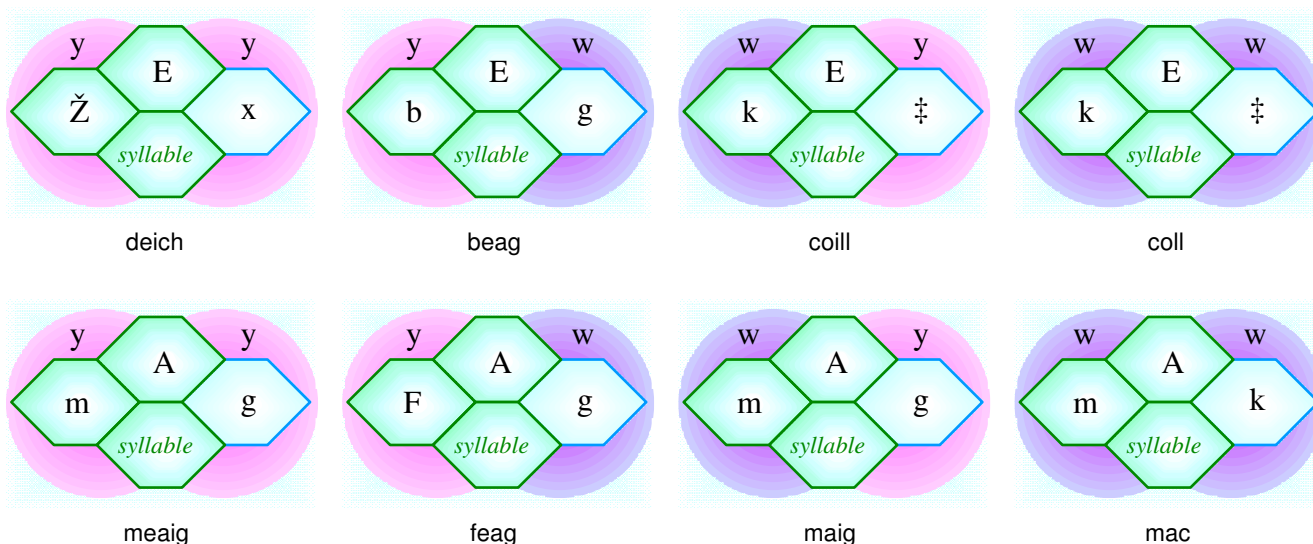
A system network generating both long and [distinct] short Peaks appears below. Again, the features [ambient], [oral] and [continuant] are assumed, or preselected.
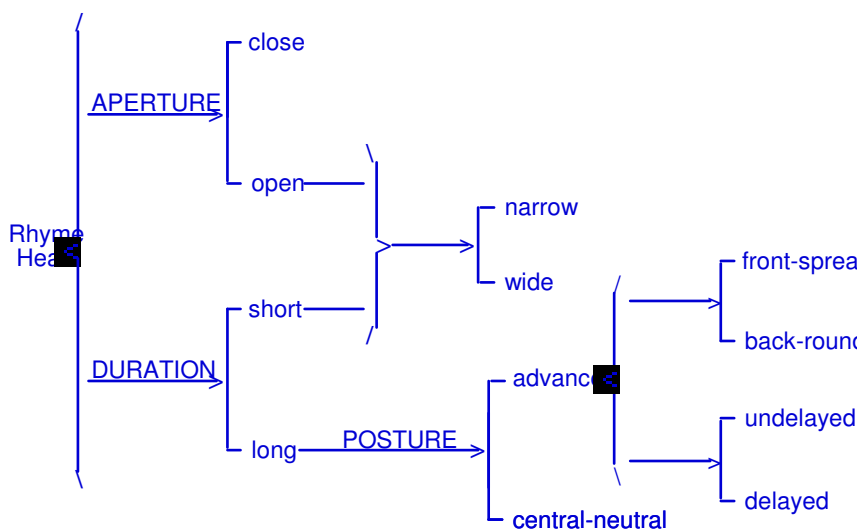

Figure 3.12 Irish Peak Potential As System Network

The amalgamation of the networks generating long and [distinct] short Peaks requires the inclusion of a further system, that of DURATION, whose feature options, [short] and [long], each constitute entry conditions for other systems. The selection of the feature [long] provides the entry condition to the POSTURE system, and the conjunction of the features [short] and [open] provides the entry condition to a more delicate system whose features are [narrow] and [wide].

Notice that the extra duration of [long] Peaks is explained as an additional phonological selection. The [long] Peaks require the adoption of a POSTURE feature between those of the preceding and following consonants. The [short] Peaks do not.

The extra duration of [long] Peaks is attributed to the requirement of an additional articulation.

The selection of a POSTURE feature for [long] Peaks results in less phonetic variation in their instantiation. Irish syllables with [long] Peaks correspond to those described by Pike (1967) as *controlled*. Syllables with [short] Peaks, on the other hand, are far more sensitive to the POSTURE of the surrounding consonants, since they are not stabilised by the selection of a distinctive POSTURE. Syllable Peaks of this type, that are simply a matter of APERTURE or vowel grade, correspond to those described by Pike (op cit) as *ballistic*.

These systems can be represented in a wider context as subsystems of the system of general articulatory potential. This is depicted in the following diagram wherein unavailable systems and features are *italicised*. Again, the features [oral], [continuant] and [ambient] provide the conjunctive entry condition for the systems of POSTURE and APERTURE that generate Peaks.
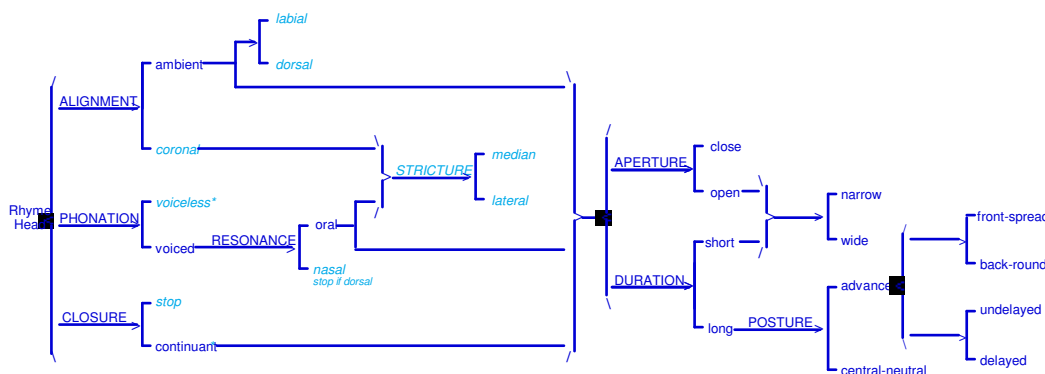

Figure 3.13 Irish Peak Potential As System Network
(* can be co-selected in the absence of ALIGNMENT features)

3.2.2.2.1.3.2 Obscure

The table below lists Irish [short: obscure] vowels along phonemic lines.[1] Again, each cell contains the orthographic representation in Chicago font with the phonetic representation below. Each column specifies the phonetic variation according to the surrounding environment in terms of consonant POSTURE. The phonetic values are those of the dialect spoken in Erris, County Mayo as described by Mhac an Fhailigh (1968/80: 9-23, 57).

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[1] Obscure vowels cannot be analysed as predictable conditioned variants of specific distinct vowels because there is no way of identifying which specific short vowel has been obscured.

PHONEME	POSTURAL ENVIRONMENT			
	y > y	y > w	w > y	w > w
	i	ea	ai	a
/´/	{ë}	{´◊}	{´◊}	{´}

Table 3.18 Irish Obscure Peaks (Phonemic Interpretation)

The table shows that, for [short: obscure] Peaks, variation is predictable from the surrounding consonant POSTURE, and that there is no phonetic distinction between these vowels articulated within the two shifting transitions y>w and w>y. Further, there is only one exponent for each of the four POSTURE transitions, compared to the three that were found to occur in [short: distinct] Peaks. Since the latter were analysed as being distinguished by features of APERTURE system, it can be said that the absence of stress has the effect of *neutralising* the APERTURE contrast for [short: obscure] Peaks; or conversely, that the APERTURE contrast is only maintained under the influence of stress.[1]

The [short: obscure] Peaks will be categorised by the feature [obscure] and incorporated into the representational strategy by either using the symbol Ø for the feature [obscure], or by leaving the Peak phase vacant, depending on descriptive requirements.

| obscure (Ø)	i/ea/ai/a
	{ë Ú ´◊ Ú ´}

Table 3.19 Irish Obscure Peaks Categorised By Features

Instances of words realised by syllables with the [short: obscure] Peak in each of the four POSTURE environments are tabled below.

[obscure]	POSTURAL ENVIRONMENT			
	y > y	y > w	w > y	w > w
	daibhir	daingean	deacair	focal
	{∂eB,ë\,}	{∂œN,g,´◊n}	{∂,œk´◊\,}	{Fok´l}
	' poor (person)'	'firm'	'hard'	'word'

Table 3.20 Instances Of Irish Words Realised By Obscure Peaks

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[1] APERTURE neutralisation signals *lexical* non-initiality, but since it arises from weak stress, the demarcative function is best described in a description of the rhythmic field. But see the discussion, in Chapter 4, on the cohesive function of mutation and the rôle of rhythm in its phylogenesis.

Given the above analysis, these words can be represented phonologically as follows:

daibhir

daingean

deacair

focal
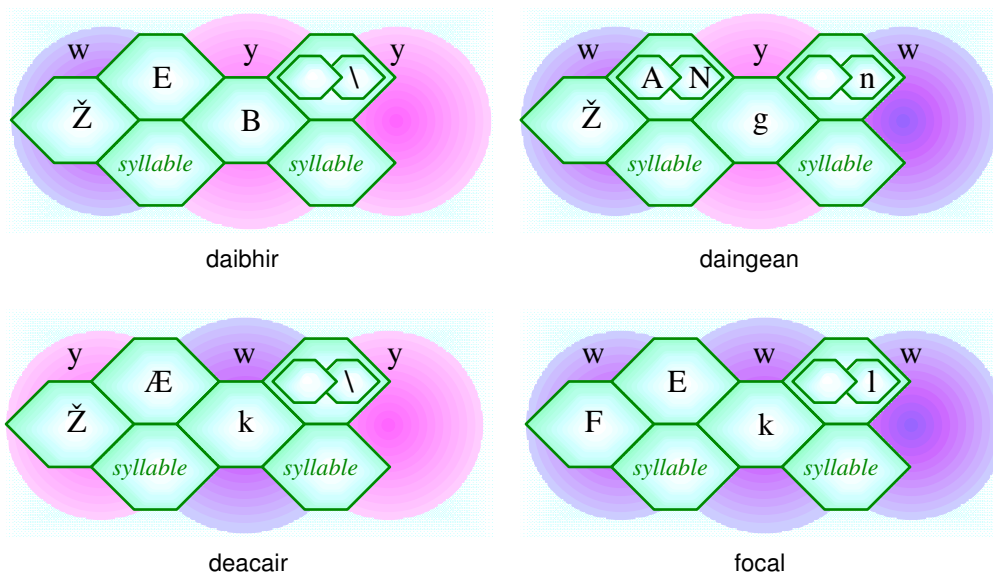
A system network generating all Peaks appears below. Again, the features [ambient], [oral] and [continuant] are assumed, or preselected.
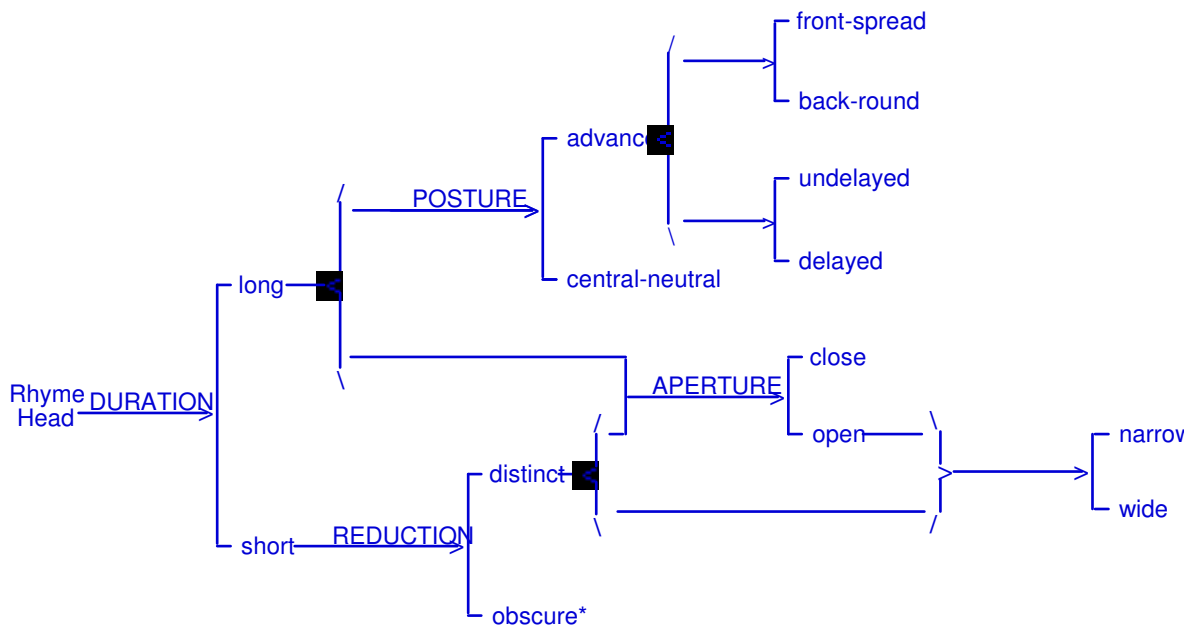

Figure 3.14 Irish Peak Potential As System Network
(* preselected by the rhythmic feature [weak])

This network includes three changes to the system network previously devised to generate [long] and [short: distinct] Peaks. First, the system of (vowel) REDUCTION,

and its feature options [distinct] and [obscure], has been incorporated with the selection of the DURATION feature [short] as its entry condition. In this system, the selection of the feature [obscure] requires the co-selection of the *rhythmic* feature [weak]. Second, the system of APERTURE has a disjunctive entry condition: selection of either the DURATION feature [long] or the REDUCTION feature [distinct] provides entry. Third, the conjunctive entry condition to the system whose options are [narrow] and [wide] has been changed from [open] and [short] to [open] and [distinct] — the feature [distinct] now implying selection of the feature [short].

These systems can be represented in a wider context as subsystems of the system of general articulatory potential. This is depicted in the following diagram wherein unavailable systems and features are *italicised*. Again, the features [oral], [continuant] and [ambient] provide the conjunctive entry condition for the systems of POSTURE and APERTURE that generate Peaks.
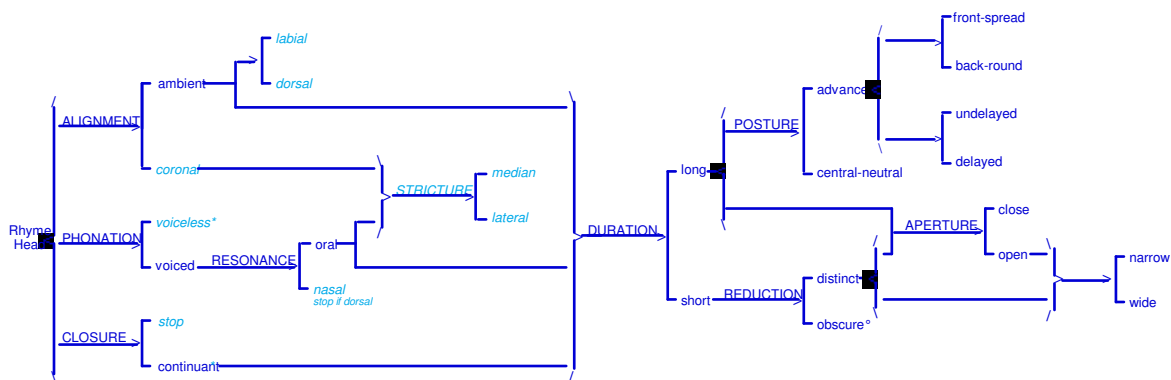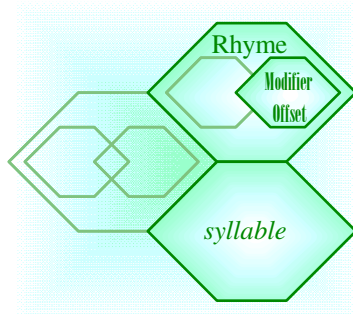

Figure 3.15 Irish Peak Potential As System Network
(°preselected by the rhythmic feature [weak])
(* *can be co-selected in the absence of* ALIGNMENT *features*)

### 3.2.2.2.2   Systems At The Rhyme Modifier (or Offset)

Generally, the set of options available at the Rhyme Modifier phase, or Offset, comprises the set available at the Onset modifier (Inset) phase, with the addition of /s/. This amounts to the full set of [coronal, continuant] consonants, as set out in the

table below. Complex Rhymes therefore entail organic complementarity since the ALIGNMENT of Peaks is [ambient] while that of Offsets is [coronal].

				continuant
coronal	voiceless			s
				{s}Ú{s,}
	voiced	oral	median	r/rr[1]
				{\}Ú{\,ÚΩ}
			lateral	l
				{l}Ú{l,}
		nasal		n
				{n}Ú{n,}

Table 3.21 Irish Offsets Categorised By Features

This paradigm requires two clarifications, the first of which concerns the [nasal] Offset. The point of oral articulator contact for the [nasal] Offset is [coronal] by default: that is, in the absence of a following consonantal ALIGNMENT. In the presence of following consonantal ALIGNMENT, nasality is effected with *that* ALIGNMENT. This is exemplified by the first syllable realising the words coimpléid 'compline', cointinn 'contention' and coincleach 'mildew' which, when instantiated, becomes variously realised as {kom,Úkem,} {kon,Úken,} and {koN,ÚkeN,} respectively. The phonological representations of these words are thus:

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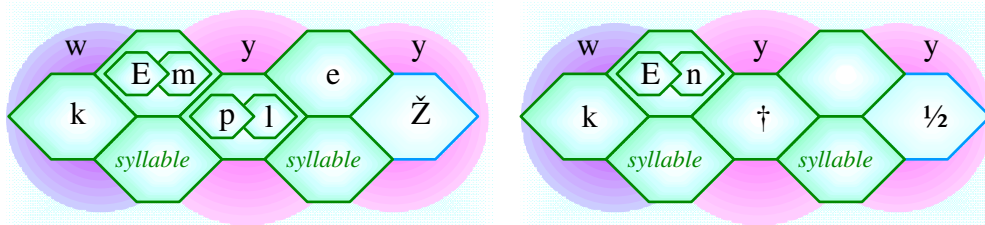
[1] The digraph rr signifies Old Irish *unlenited* /r^TM/, and can be taken as an *orthographic* marker of lexicogrammatical finality. Word-finally, unlenited /r^TM/ (rr), along with unlenited /‡/ (ll), unlenited /fl/ (nn) and (unlenited) /m/ (m), tend to lengthen preceding [short] Peaks (Ó Sé and Sheils (1993: 10-11), which might be taken as a marker of lexicogrammatical finality. However, vowel lengthening — at least of [short] [open] Peaks — also occurs before the labiovelarised clusters comprising the [median] Offset (lenited Ν (r)), and any of the [voiced, coronal, stop] consonants — wherein Ν is lamino-dental: {\^TM∂} (rd), {\^TM‡} (rl), and {\^TMfl} (rn) — *regardless* of lexicogrammatical position.
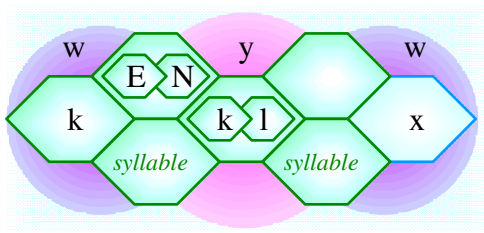
The other clarification concerns the [median] Offset /N, and there are two points of consideration. First, when [coronal] consonants follow, the flap articulation of the [median] Offset merges with the following [coronal] ALIGNMENT, with the result that it becomes a rhotic on-glide to that consonant. In this regard, Mhac an Fhailigh (1968/80: 43) notes that the labiovelarised flap has a dental allophone when it precedes (labiovelarised) /fl/ and /‡/:

> It consists of a vigorous flap of the blade of the tongue against the teeth-ridge and the inner side of the upper front teeth, merging in a dental (or interdental) N or L.

This approximant occlusion of /N makes any secondary articulation unpalatable, and explains why pronunciation guides[1] advise that it is never palatalised in such instances.

The second point concerns the palatalised [median] Offset /\,/ in word-final position where, according to Mhac an Fhailigh (1968/80: 44):

> ...the one tap is not so clear-cut and the consonant finishes as a fricative with many speakers.

It can be noted, then, in anticipation of upcoming discussions, that frication of this Offset functions cohesively in as much as it demarcates lexicogrammatical finality.

A system network representing Offset potential appears below. The conjunction of the features [coronal], [continuant] and [voiced] is assumed, or *preselected*, as the entry condition for this system.
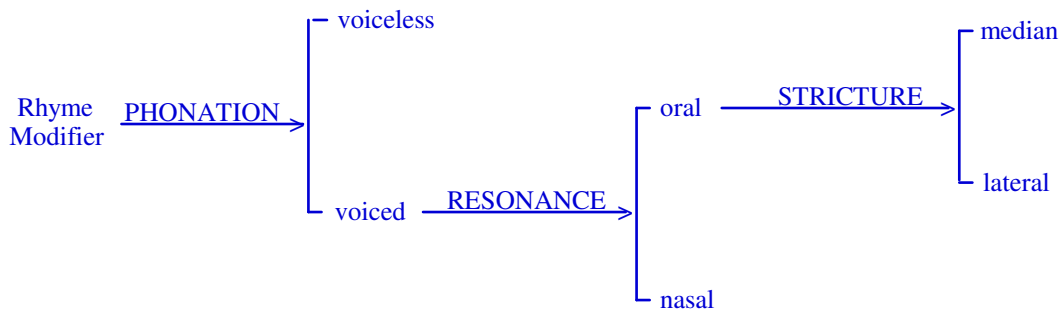

Figure 3.16 Offset Potential For Irish As System Network

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[1] Such as that accompanying the *Foclóir Póca* published by *An Gúm* (1990).

This system can be represented in a wider context as a subsystem of the system of general consonant potential. This is depicted in the following diagram wherein unavailable systems and features are *italicised*.
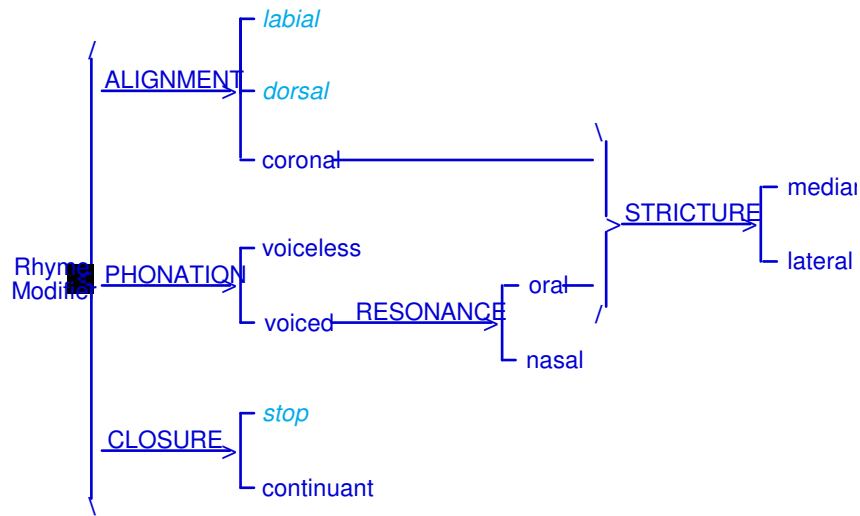
Figure 3.17 Irish Offset Potential As System Network

This system can also be represented in a wider context, still, as a subsystem of the system of general articulatory potential. This is depicted in the following diagram wherein unavailable systems and features are *italicised*.

Figure 3.18 Irish Offset Potential As System Network
(* can be co-selected in the absence of ALIGNMENT features)
(°preselected by the rhythmic feature [weak])

There are no constraints on modification within the Rhyme: any Peak is potentially postmodified by any Offset. Orthographical representations of words realised by modified [long] Peaks are tabled below.

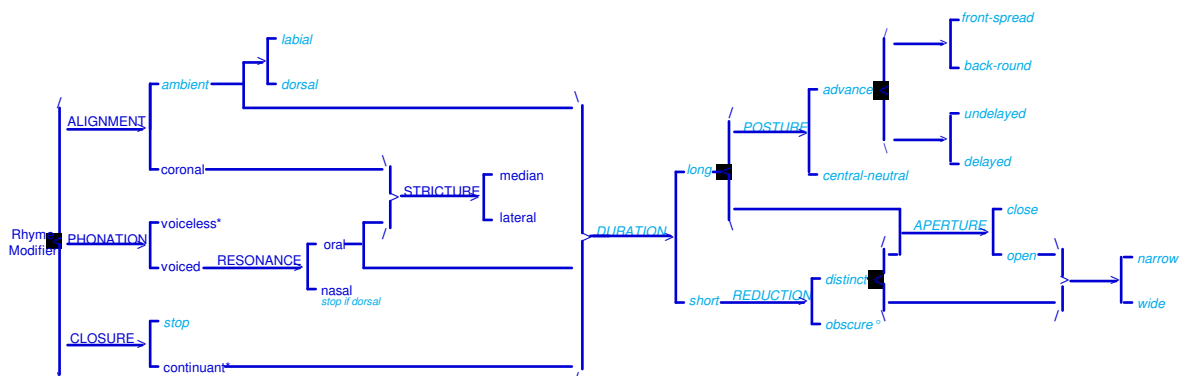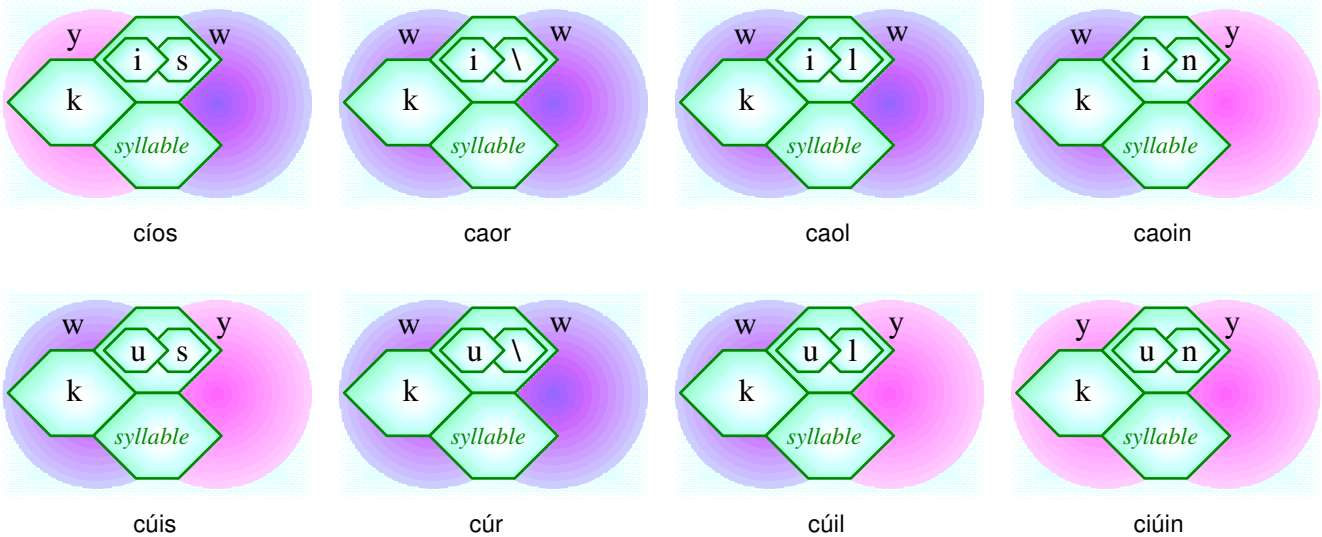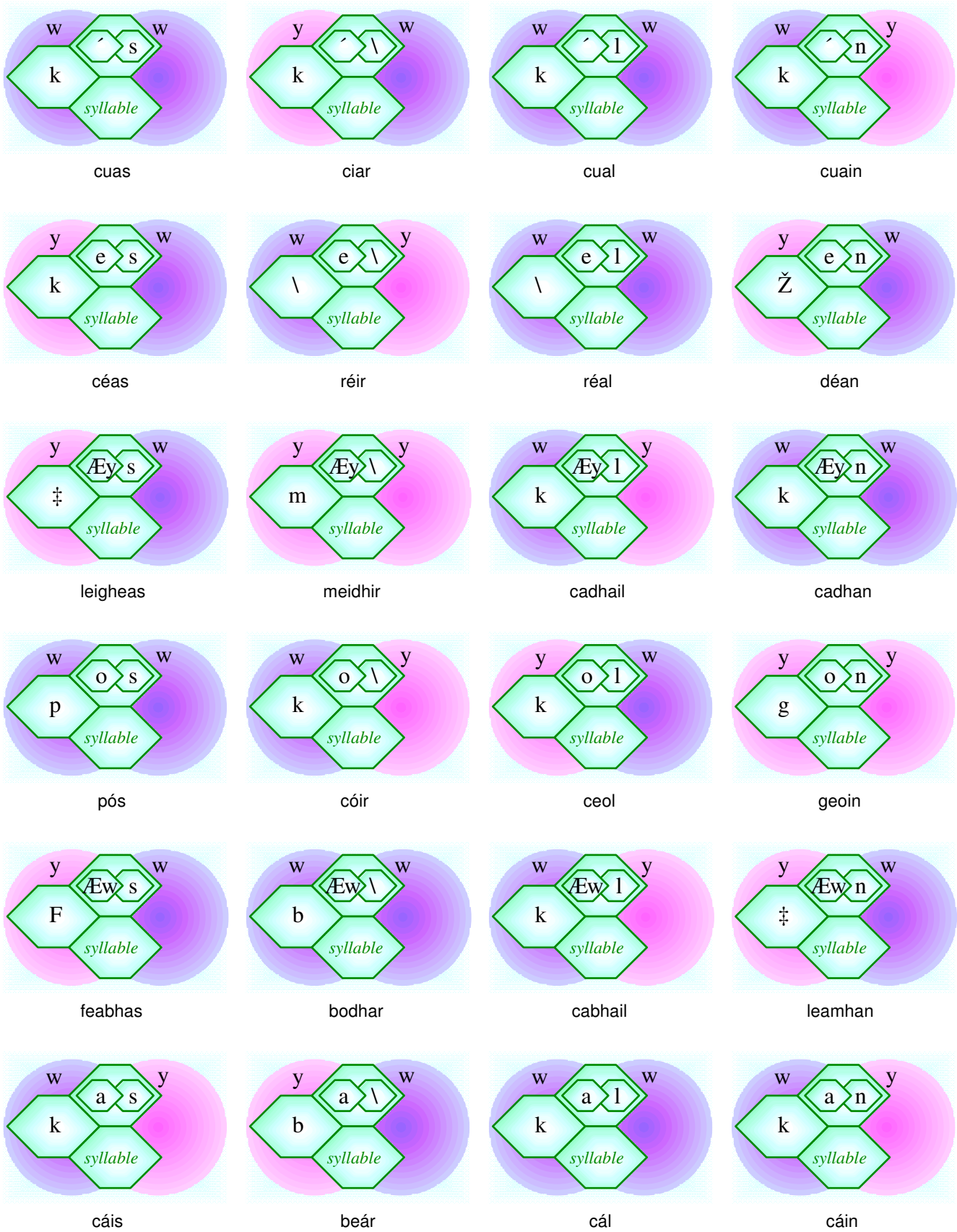|				Offset			
				voiceless	voiced		
					oral		nasal
					median	lateral	
Peak	close	front-spread		cíos	caor	caol	caoin
				'rent'	'berry'	'slender'	'lament'
		back-round		cúis	cúr	cúil	ciúin
				'cause'	'froth'	'corner'	'calm'
		central-neutral		cuas	ciar	cual	cuain
				'cavity'	'swarthy'	'faggot'	'brood'
	open	front-spread	undelayed	céas	réir	réal	déan
				'torment'	'wish'	'manifest'	'do'
			delayed	leigheas	meidhir	cadhail	cadhan
				'healing'	'merriment'	'coil'	'barnacle goose'
		back-round	undelayed	pós	cóir	ceol	geoin
				'marry'	'justice'	'music'	'drone'
			delayed	feabhas	bodhar	cabhail	leamhan
				'excellence'	'deaf'	'torso'	'moth'
		central-neutral		cáis	beár	cál	cáin
				'cheese'	'bar'	'cabbage'	'penalty'

Table 3.22 Instances Of Words Realised By Offsets Modifying Long Peaks

These can be represented as follows:

cíos   caor   caol   caoin

cúis   cúr   cúil   ciúin

|			
w ´ s w — k — *syllable*	y ´ \ w — k — *syllable*	w ´ l w — k — *syllable*	w ´ n y — k — *syllable*
cuas	ciar	cual	cuain
y e s w — k — *syllable*	w e \ y — \ — *syllable*	w e l w — \ — *syllable*	y e n w — Ž — *syllable*
céas	réir	réal	déan
y Æy s w — ‡ — *syllable*	y Æy \ y — m — *syllable*	w Æy l y — k — *syllable*	w Æy n w — k — *syllable*
leigheas	meidhir	cadhail	cadhan
w o s w — p — *syllable*	w o \ y — k — *syllable*	y o l w — k — *syllable*	y o n y — g — *syllable*
pós	cóir	ceol	geoin
y Æw s w — F — *syllable*	w Æw \ w — b — *syllable*	w Æw l y — k — *syllable*	y Æw n w — ‡ — *syllable*
feabhas	bodhar	cabhail	leamhan
w a s y — k — *syllable*	y a \ w — b — *syllable*	w a l w — k — *syllable*	w a n y — k — *syllable*
cáis	beár	cál	cáin

Orthographical representations of words realised by modified [short: distinct] Peaks are tabled below.

			voiceless	voiced		nasal
				oral		
				median	lateral	
Peak	close		cis	bior	dil	bun
			'basket'	'point'	'dear'	'bottom'
	open	narrow	bos	beir	dol	goin
			'slap'	'bear'	'noose'	'wound'
		wide	cas	dair	ceal	bean
			'twist'	'oak'	'lack'	'woman'

Table 3.23 Instances Of Words Realised By Offsets Modifying Short Distinct Peaks

These can be represented as follows:

cis

bior

dil

bun

bos

beir

dol

goin

cas

dair

ceal

bean
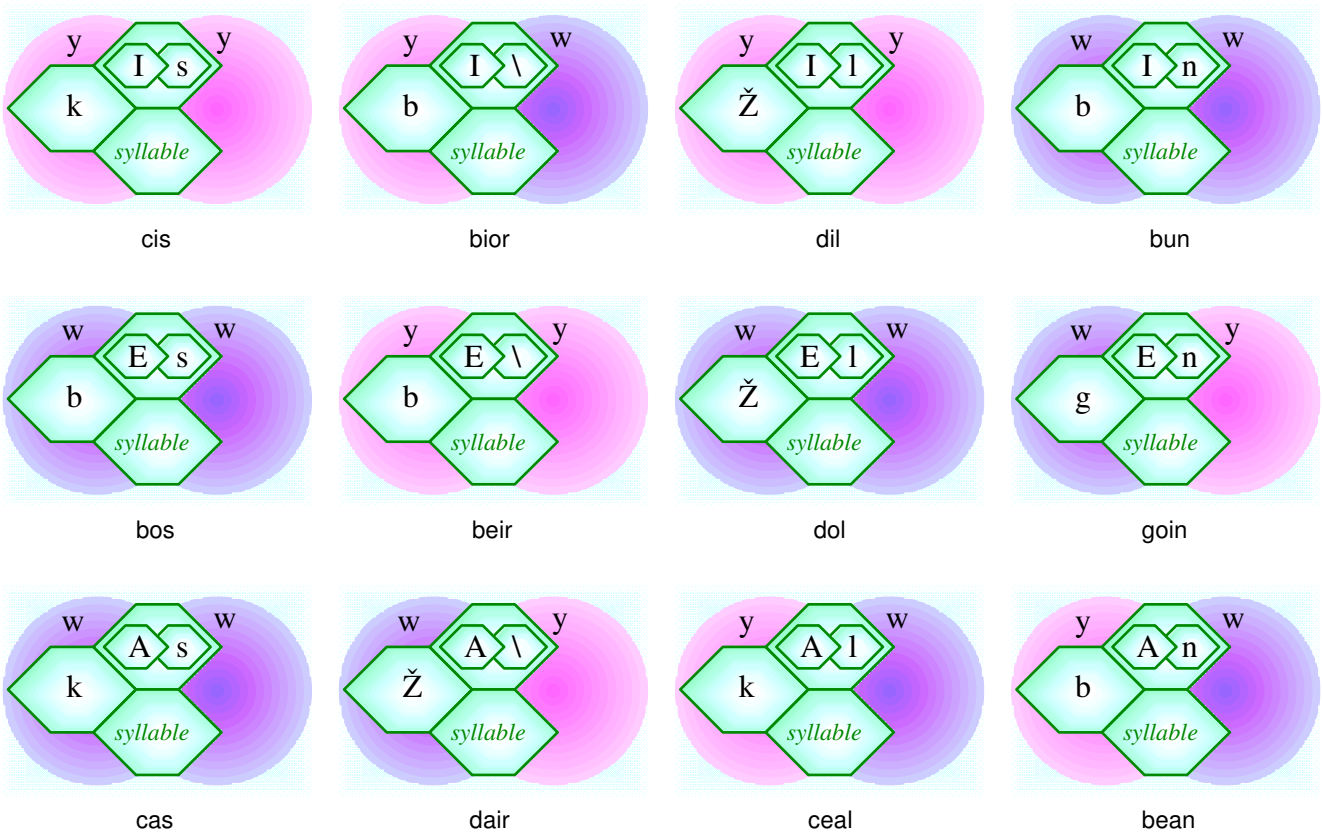
3.3   Summary

This chapter has used the model of phonogenesis developed in previous chapters to begin to describe the creation of articulatory texture in Irish. The discussion can be summarised as follows.

After briefly overviewing the general articulatory potential of Irish, the syntagmatic and paradigmatic potential of syllables with free lexicogrammatical distribution was described. Each phase of the syllable, Onset and Rhyme, was said to potentially nest two hypotactically related positions, and system networks were devised to represent the paradigmatic potential at each of these four phases.

In discussing Onset systems, it was noted that there were constraints on postmodification of the Onset Head, and these were built into the network of Onset potential. The discussion of the Rhyme devised systems of potential for the vocalic Peak and the consonantal Offset. Long Peaks were distinguished (paradigmatically) from short Peaks by being specified for POSTURE as well as APERTURE features. Short Peaks were said to be specified for APERTURE only when the syllable is salient, and for neither POSTURE nor APERTURE when the syllable is weak.

This chapter has established the structures and systems of syllables with free lexicogrammatical distribution. The next chapter will examine the structures and systems of syllables that are restricted in their distribution to specific lexicogrammatical domains, and which therefore serve a cohesive function.