CHAPTER 2

Phonological Texture

2.0 Introduction

This chapter develops the phonogenetic model outlined in Chapter 1 by integrating the two major proposals relating to function and structure. This provides the theoretical basis for the description of Irish articulation that follow in Chapters 3 and 4 (and of Australian English in the Appendix). The chapter describes the creation of texture in each of the three phonogenetic fields. The articulatory field is discussed first, followed by the rhythmic field and the intonational field, and the chapter concludes with a summary of the main points.

2.1 Weaving The Texture Of Articulatory Fields

In Chapter 1, phonological texture was said to comprise systems of phonological structure and of phonological cohesion, both being manifestations of the textual metafunction. Articulatory texture was said to be effected by systems of articulatory structure, the Onset and Rhyme phases of the syllable, and by the systems of phonological cohesion, demarcation, integration and concatenation, which signal the syntagmatic extent of lexicogrammatical units. This discussion will first describe the structure of the syllable more delicately, and then relate cohesion to the articulatory field. Language-specific systems of articulatory texture will be elaborated in the description of Irish in Chapters 3 and 4 (and of Australian English in the Appendix).

2.1.1 Structure In The Syllable Core

In Chapter 1, phonology was presented as the dynamic process of phonogenesis in which phonological form is created from position by the charging of syntagmatic positions with selected paradigmatic states, and the syntagmatic dimension of this process was couched in terms of periodic behaviour of the vocal tract. The following discussions of syllable structure will first briefly recall the periodic model of syntagm and then present a complementary perspective founded on the notion of modification.

2.1.1.1 Periodicity: Textual Metafunction

There are two points to be made here about the textual structure of the syllable, the first concerns dynamic and synoptic perspectives in representation, and the second

concerns structural positions as entry points into paradigmatic systems. Firstly, in Chapter 1, the textual structure of the syllable was given as represented in the following diagram.

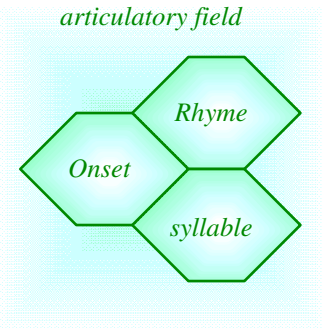


Figure 2.1 Articulatory Quantum As Textual Structure

It is important to recognise that the periodicity model of textual structure is not a constituency model of the syllable, but a synoptic representation of a dynamic process. This can be explained as follows. The periodicity model of structure presents articulation as a wave-train of alternating Onset and Rhyme phases. This is to conceive of articulation as the propagation of a disturbance through an articulatory field. This propagating wave-front can be depicted dynamically as particle tracing out an undulating path through the field, with each new phase in a new frame, as stills in a film. This perspective is represented below.

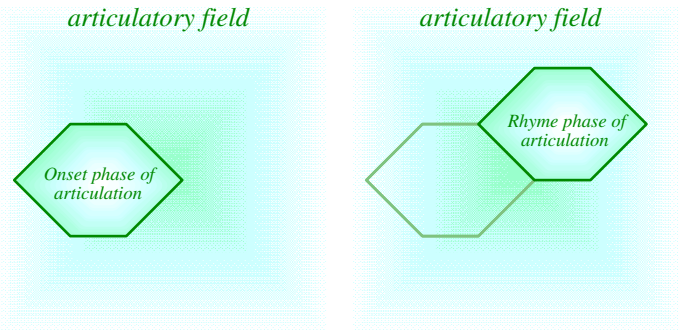


Figure 2.2 Dynamic Representation Of The Textual Structure Of The Syllable

A synoptic representation, on the other hand, places all the phases that are probabilistically related to a particular syllable within the same frame — like a multiply exposed photograph of an object in motion — thereby creating the *false*

impression on paper[1] that the two phases of the particle in motion are two distinct constituent particles. This perspective appears in the figure below.

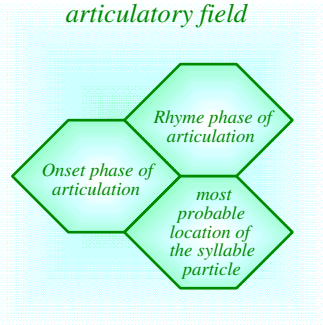
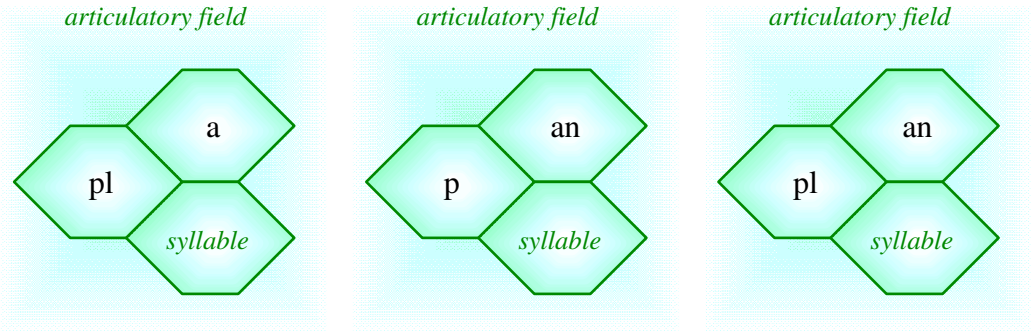


Figure 2.3 Synoptic Representation Of The Textual Structure Of The Syllable

Secondly, following Firth, the entry conditions to paradigmatic systems are here specified syntagmatically rather than paradigmatically, so as to model phonology dynamically as a step by step process of changing potential. Since each phase is distinguished by being the entry point to paradigmatic systems, there is a need for a finer description of syntagm, as there can be more than one entry point to paradigmatic systems during each textual phase.

This is illustrated below by /pla/ which is a syllable whose trajectory takes it through two paradigmatic states during the Onset phase, by /pan/ which passes through two paradigmatic states during the Rhyme, and by /plan/ which passes through two states at each phase of the articulation:



In the next section, positions within the Onset and Rhyme phases of syllable propagation will be described in terms of modification and taxis.

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[1] This problem can be circumvented by using computer graphics to model linguistic processes dynamically as 3-dimensional crystalline viridescent tesseræ whose paradigmatic states change as they undulate through the space-time of the articulatory field, with "charged" fields — like those of vowel harmony and the secondary articulation of consonant clusters — appearing and disappearing around the particle as it moves. By contrast, a static model of articulation would resemble those on these pages in viewing the same articulation synoptically as a string of 3-dimensional hexagons, one for each paradigmatic state, concatenated in the shape of a sine wave, with "charged" fields surrounding sections of the string.

2.1.1.2 Modification: Logical Metafunction

The textual structure of the syllable is a view of articulation as a process of periodically switching on moraicity. This view can be complemented with a view of articulation as modification. Most generally, articulation is the modification of phonation. The minimal unreduced[1] syllable is a minor vocalic (sonant) modification of the vocal tract, but more typically, this minor sonant modification is preceded by a major *con*sonant obstruction of the vocal tract. There is a sense in which consonant articulation is the modification of vowel (sonant) articulation, so that the articulation of a CV syllable is a process of *pre*modification.[2]

In Systemic theory, modification is one component of the univariate structures that realise the logical metafunction. A univariate structure is one 'generated by the recurrence of the same function: α is modified by β, which is modified by γ, which is…', whereas a multivariate structure, such as the textual structure of the syllable, is 'a constellation of elements each having a distinct function with respect to the whole' (Halliday 1994: 193).

Modification is the type of interdependency known as *hypotaxis*. Hypotaxis is the relation between two elements of unequal status, as between a dependent *Modifier* and the dominant *Head* which it modifies, and is indicated by Greek letter notation: α β γ …. This contrasts with *parataxis*, the relation between elements of equal status, one *initiating* others *continuing*, and is indicated by numerical notation: 1 2 3 … (Halliday 1994: 218). Any pair of elements related by interdependency, or taxis, is termed a *nexus*.

Viewed in terms of interdependency, the syllable is a hypotactic nexus β^α, with the Onset dependent on the Rhyme. The Rhyme is the dominant (α) phase of the syllable: it is both the necessary and sufficient phase of the syllable. There must be a Rhyme phase for there to be a syllable. The Onset is the dependent (β) phase of the syllable: its presence implies the presence of a Rhyme. This view of the syllable is represented below.

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[1] The minimal reduced syllable is a syllabic consonant, which can be analysed as a Rhyme that has been reduced from vowel^consonant.

[2] *Most generally*, modification can be premodification, postmodification, or comodification. For example, the vowel /a/ can be premodified by [nasal], as in /na/, postmodified by [nasal], as in /an/, or comodified by [nasal], as in /a$/.

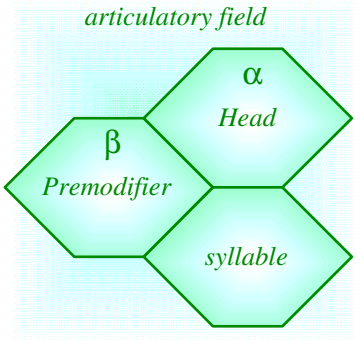


Figure 2.4 The Logical Structure Of The Syllable: Onset^Rhyme As Nexus Of Premodification

In languages with syllable structures more complex than CV, one or both phases in the nexus may nest postmodification. Within an Onset like /pl/, the relation between the subphases is one of dependence because the set of consonants that can occur in the second position is a small subset of general consonant potential. The first dominant SubHead (βα) is postmodified by the second dependent (ββ). Correspondingly, within a Rhyme like /an/, the relation between the two subphases is one of dependence because the second occurs only if the first occurs.[1] (It will also be seen later in the discussion that the set of consonants that can occur in this position is generally a small subset of general consonant potential.) The first dominant SubHead (αα) is postmodified by the second dependent (αβ). This expanded structure of the syllable can be viewed logically, therefore, as β(α^β)^α(α^β), as represented below.

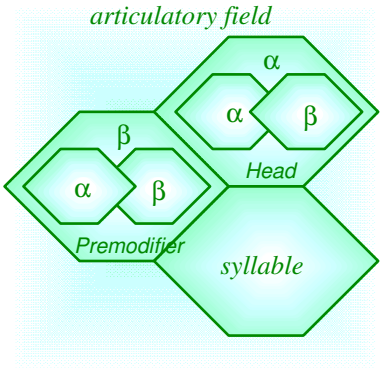
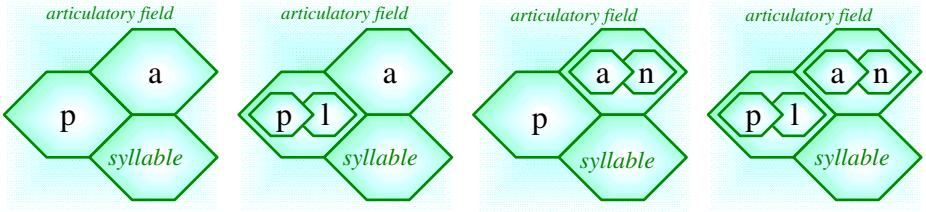


Figure 2.5 The Logical Structure Of The Syllable: Syllable As A Nexus Of Premodification, Each Phase Nesting Postmodification

[1] Analysing syllabic consonants as a Rhyme reduced from vowel^consonant.

The logical structure of the syllable can be illustrated by /pa/ /pla/ /pan/ and /plan/. The syllable /pa/ is β^α; /pla/ is β(α^β)^α; /pan/ is β^α(α^β); and /plan/ is β(α^β)^α(α^β). These appear below.[1]



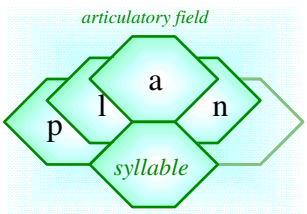
2.1.2 Cohesion Around The Syllable Periphery

In Chapter 1, it was proposed that articulatory potential varies with lexicogrammatical position, such that some paradigmatic states and syntagmatic structures can occur only in specific lexicogrammatical domains. The function of such phenomena was interpreted as cohesive, in that cohesion is the process of expressing, by articulatory means, the syntagmatic extent of lexicogrammatical rank units such as morphemes, words and groups or phrases. Articulatory cohesion is a means of tracking the lexicogrammatical progression of the text. This discussion will relate the resources of articulatory cohesion to the articulatory field, taking demarcation and extension in turn.

2.1.2.1 Demarcation

Demarcation is effected by phonological phenomena that do not have general lexicogrammatical distribution, but only occur at lexicogrammatical boundaries.[1] There are two types:

[1] Therefore, a phonological quantum is simultaneously a wave (textual metafunction) and a string of interdependent particles (logical metafunction). A representation that gives a more undulatory (textual metafunction) bias to the structure of a syllable like /plan/ appears below:

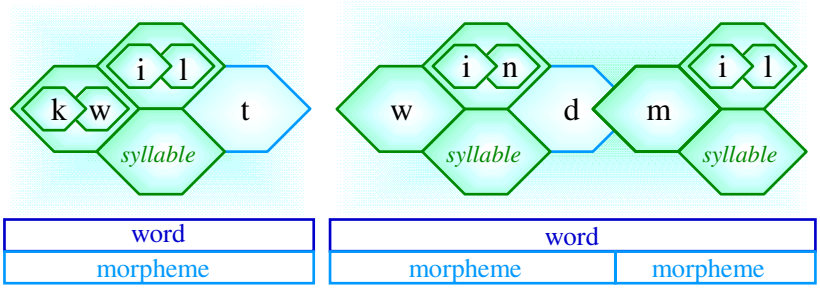


(1) *syntagmatic* (quantitative) variation, wherein the demarcation is effected through differences in the number of potential articulatory *phases* at a specific lexicogrammatical position, and

(2) *paradigmatic* (qualitative) variation, wherein the demarcation is effected through differences in potential articulatory *states* — systemic options — at a specific lexicogrammatical position.

2.1.2.1.1 Syntagmatic Variation: Phases

Demarcation of lexicogrammatical domains by syntagmatic articulatory variation is effected either through a quantitative increase or decrease in the number of articulatory *phases* at a specific lexicogrammatical boundary position. An instance of syntagmatic *increase*, as cited in the previous chapter, is an English Rhyme containing more than two mora, which can only occur morpheme-finally, and so marks morpheme finality. This was illustrated by the word-final consonants in the quilt /kwilt/ and damask /dam´sk/ and by the word-medial /d/ in windmill /windmil/. The different functional status of such articulations will be indicated by allocating them a distinct position in structural representations, to be termed the *Coda* to distinguish it from the preceding consonantal Offset position. The Coda is illustrated below for quilt and windmill.



In a description of Australian English (see the Appendix), the different functional status of demarcative consonants that also singly express grammatical suffixes,

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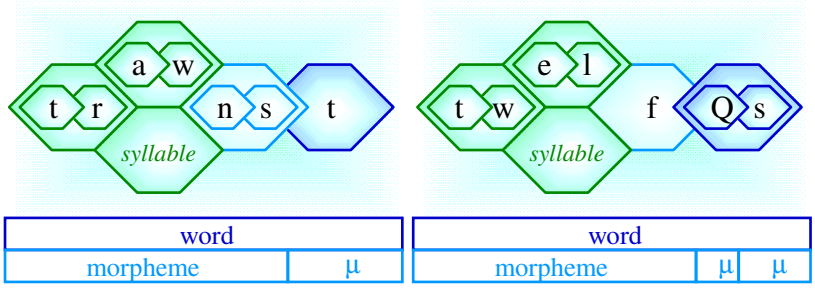
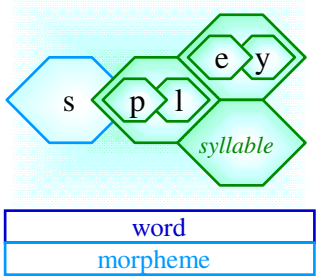
[1] It will be seen in Chapter 5 that there is a relevant functional parallel of demarcative consonants in genetic systems. Three codons (triplet nucleotide sequences that code for specific amino acids) — UAA UAG UGA — function as 'terminators' that signal the end of the transcription process, while another — AUG — functions as an 'initiator' that signals its start. In comparing articulatory routines with DNA, the articulatory aperiodicities created by peripheral consonants and nested positions in the syllable core might be considered in the light of Schrödinger's (1944/1967) description of the genome as an aperiodic crystal (see Chapter 5). Gribbin (1985a: 217):

> Schrödinger (1944: 5) introduced a concept 'that the most essential part of a living cell — the chromosome fibre — may suitably be called *an aperiodic crystal*'. He drew a distinction between an ordinary crystal of a substance such as common salt, where there is an endless repetition of a basic unit in a perfectly regular pattern, and the structure you might see in 'say, a Raphael tapestry, which shows no dull repetition, but an elaborate, coherent, meaningful design' [ibid]. A periodic crystal, like one of common salt, can carry only a very limited amount of information…But an aperiodic crystal, in which there is structure obeying certain fundamental laws but no dull repetition, can carry enormous amounts of information.

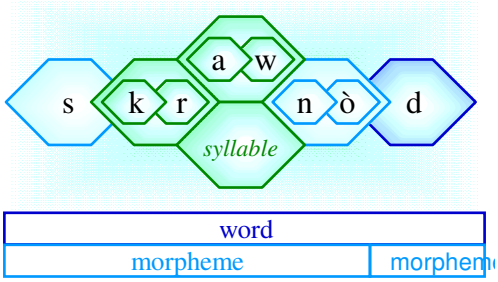
whether derivational or inflectional morphemes, can be indicated by allocating them a further distinct position in structural representations, to be termed the *Cauda* to distinguish it from the preceding Coda position. The Cauda is illustrated below for trounced /trawns+t/, which is suffixed with the [past] TENSE inflection, and twelfths /twelf+Q+s/, which is suffixed with the derivational [ordinal] morpheme and the [plural] NUMBER inflection.



Another instance of syntagmatic increase is an English Onset containing more than two consonants, which can only occur morpheme-initially and so marks morpheme-initiality. The different functional status of the first consonant in such articulations will be indicated by allocating them a distinct position in structural representations, to be termed the *Outset* to distinguish it from the following Onset position. The Outset is illustrated below for splay /spley/.

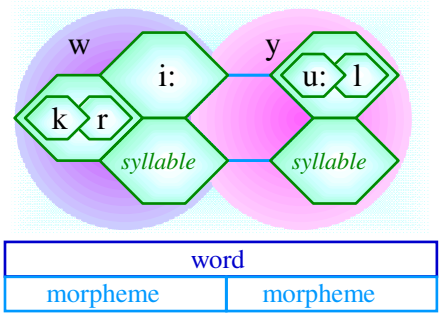


The word scrounged /skrawnòd/ thus illustrates the maximal expansion of English syllable by these means, demarcating morpheme-initiality with the Outset /s/, morpheme-finality with the Coda /nò/, and both morpheme-finality and word-finality with the Cauda /d/.



The second means of demarcating lexicogrammatical domains by syntagmatic articulatory variation is through a *decrease* in the number of articulatory phases at a

specific lexicogrammatical position. An example of structure decrease can be found in Irish, where there may be no Onset state for syllables at morpheme-initial position.[1] An Irish syllable with no Onset state, like the second in croíúil /kri:u:l,/ 'hearty', from croí 'heart' + úil [adjectival] (from amhail 'like'), therefore demarcates morpheme-initiality. This is illustrated below, where the absent Onset state is shown as an unfilled position.



2.1.2.1.2 Paradigmatic Variation: States

Demarcation of lexicogrammatical domains by paradigmatic articulatory variation is effected by differences in the range of articulatory *states* at a specific lexicogrammatical boundary position. This may involve a quantitative increase in the system[2] so that more options become available, or a decrease in the system[3] so that fewer options are available at morpheme boundaries. However, demarcation is only achieved qualitatively, by specific paradigmatic options that only occur at a lexicogrammatical boundary.

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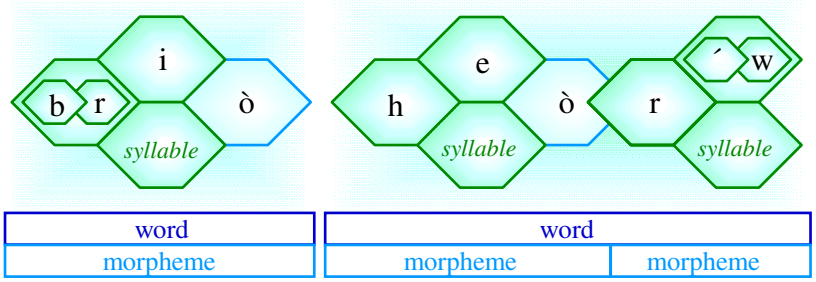
[1] This is also largely true of English (see the Appendix). The picture is complicated by borrowings, especially from Greek and Latin (± intermediaries) where a word which was polymorphemic in the source language has become monomorphemic in English but retained the phonological pattern appropriate for polymorphs. Examples of these include disyllabic poet (Greek), ruin (Latin), cruel (Latin), suet (Middle English < Anglo-French < Latin), cruet (Middle English < Old French), where the second syllable lacks an Onset. (Note, for example, that Old French cruet was the dimorphemic diminutive of crue (cf German Krug 'pot')). [All etymologies are from the Macquarie Dictionary (1991).]

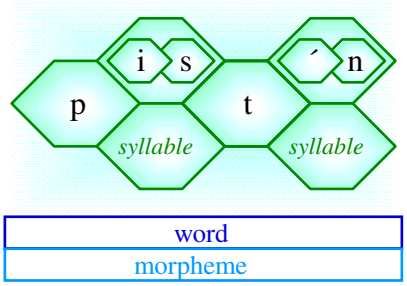
[2] An example of system increase can be found in English, where the syllable Onset system expands at morpheme-initial position to include the option /h/ which is not available elsewhere. An English syllable with the Onset /h/, therefore has the function of demarcating morpheme-initiality.

[3] An example of system decrease can be found in Irish, where the syllable Onset system contracts at lexical-initial position to exclude, inter alia, the options {/B/ /x/ /V/ /h/} which are available elsewhere. An Irish syllable with such an Onset therefore indicates non-initiality. These Onsets do become available lexical-initially through the process of initial consonant mutation. As will be shown in Chapter 3, the *phonological* function of mutation is to indicate non-initiality at a higher grammatical rank. Words that begin with mutated consonants are non-initial elements in higher rank (group/phrase) structures. A mutation is an anaphoric reference to a syllable realising a preceding element in a group or phrase. A mutation integrates the group or phrase as a unit. In cases where the syllable realising the preceding lexicogrammatical element has been lost phylogenetically, the mutation becomes the sole realisation of the meaning formerly expressed by that lost unit, and thus has taken on the *lexicogrammatical* function of that unit as well. See also Chapter 4 for demarcation in the Rhythmic field as a causal phylogenetic influence on mutation.

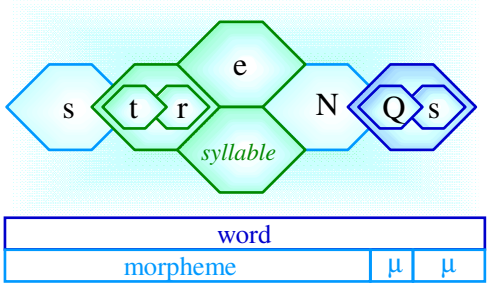
The example given in Chapter 1 where a phonological paradigmatic option signals a lexicogrammatical domain is syllable closure in English by the consonant /ò/, as in the words bridge /briò/ knowledge /nol´ò/ and hedgerow /heòr´w/. Again, the different functional status of such articulations will be indicated by placing them in the distinct Coda position in structural representations, as illustrated below for bridge and hedgerow.[1]



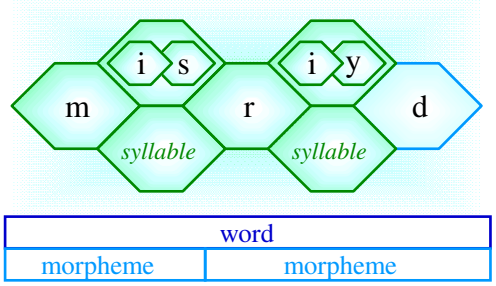
Demarcation of lexicogrammatical domains can also be effected by exceptional configurations of paradigmatic states at syllable boundaries. For example, in English, the selection of the Offset /s/ probabilistically constrains the Onset system of the following syllable to the set of voiceless stops when both syllables express the same morpheme. A typical instance is the monomorphemic word piston /pist´n/, where the Offset /s/ is followed by the voiceless stop /t/, as represented below.



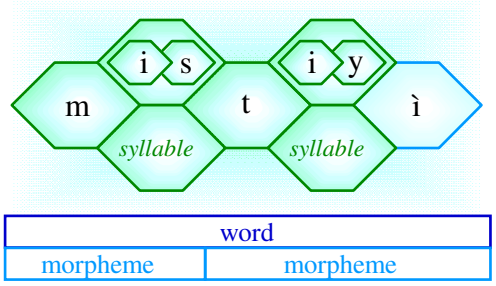
[1] The word strengths /streNQs/ illustrates the maximal expansion of an English syllable without an Offset:



In contrast, if the Onset following the Offset /s/ is not a voiceless stop, there is a high probability that a morpheme boundary lies between the two Rhymes.[1] A typical instance is the dimorphemic word misread /misriyd/, where the Offset /s/ is followed by the rhotic liquid /r/, as represented below.



On the other hand, the converse relation does not hold. Two syllables that conform to this constraint do not necessarily express the same morpheme. A typical instance is the dimorphemic word misteach /mistiyì/, where the Offset /s/ is followed by the voiceless stop /t/, as represented below.



2.1.2.2 Extension: Fields

2.1.2.2.1 Integration

In integration, a paradigmatic feature is associated with a lexicogrammatical domain such as a morpheme or word rather than with a phonological domain such as a

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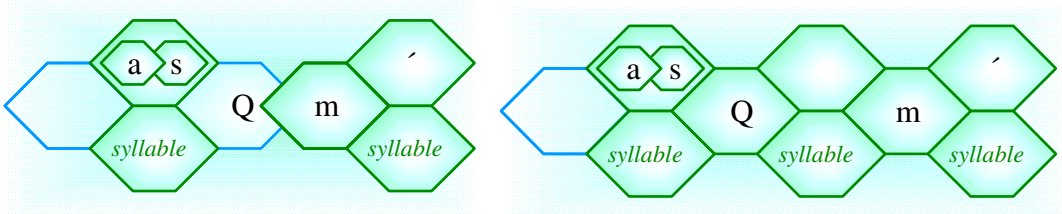
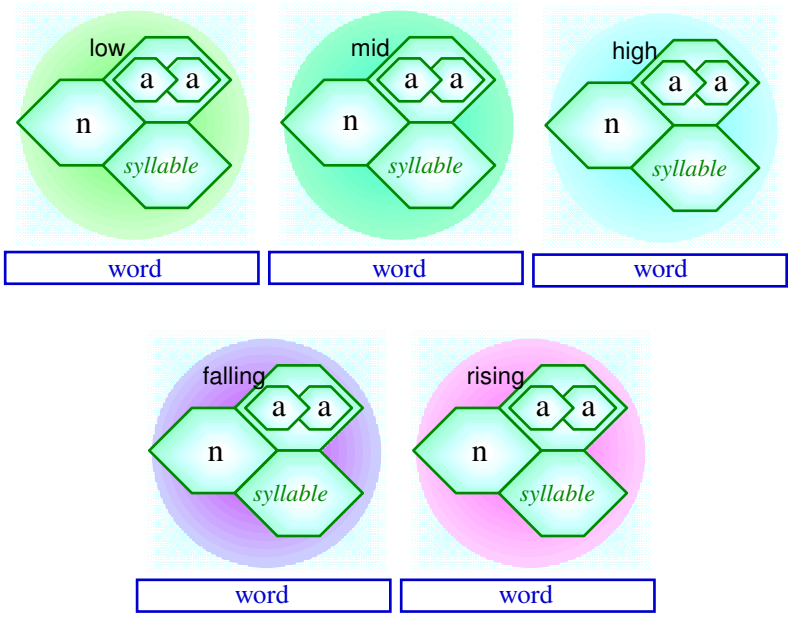
[1] Note that treating syllables as particles localised syntagmatically by waves of probability means that a *precise* historical morpheme boundary can't be adduced for certain on phonological structure alone (but see the Appendix). For example, the /Q/ in asthma /asQm´/ suggests morpheme finality (in the source language), but morpheme-initiality — on the basis of the /sQ/ sequence — if a vowel had been previously eroded (perhaps via syllabic /m¡/) from between the /Q/ and the /m/: /as+QVm´/.



segment or syllable. In the previous chapter, integration was said to differ from *concatenation* in that a feature state extends for the entire duration of a lexicogrammatical domain, whereas in concatenation, a feature state typically extends from *part* of one lexicogrammatical domain to *part* of another. There are, however, instances where the distinction between the two becomes blurred, as will be seen below in the discussion of concatenation.

Because of this detachment from phonological periodicities, such paradigmatic features are better represented syntagmatically as "charged" or polarised regions of the phonogenetic field that correlate with the extent of lexicogrammatical unit — word or morpheme — than as phases of articulatory cycles.

The Thai tone system can be used to illustrate charged fields performing an integrative function. Recalling from the previous chapter that one tonal feature from the system {[low] [mid] [high] [falling] [rising]} extends for the duration of the word, these features are shown below as paradigmatic states of fields surrounding the syllables that express the words nàa 'nickname', naa 'rice paddy', náa 'younger maternal uncle or aunt', nâa 'face' and na&a 'thick', respectively:

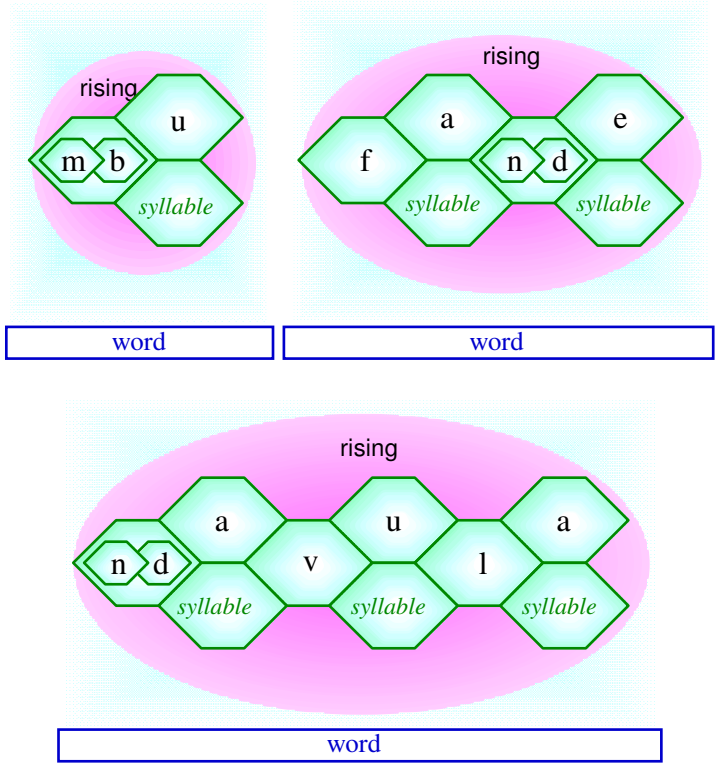


The integrative function of charged phonological fields for *poly*syllabic — as well as monosyllabic — words can be illustrated by the tone system of Mende[1], a language of Sierra Leone, where one tonal feature again extends for the duration of the word. In Chapter 1, the tone system of Mende was given as {[high] [low] [high-low] [low-high] [low-high-low]}, but here these "segmental" labels will be recategorised more prosodically as {[high] [low] [falling] [rising] [rise-fall]}, respectively.[2] With this in mind,

[1] Data from Leben (1978: 186).

[2] Features like [rise-fall] and [fall-rise] can be made to sound less segmental by terms such as [convex] and [concave], respectively.

monosyllabic mbu 'rice', disyllabic fande 'cotton' and trisyllabic ndavula 'sling' can be represented as follows.



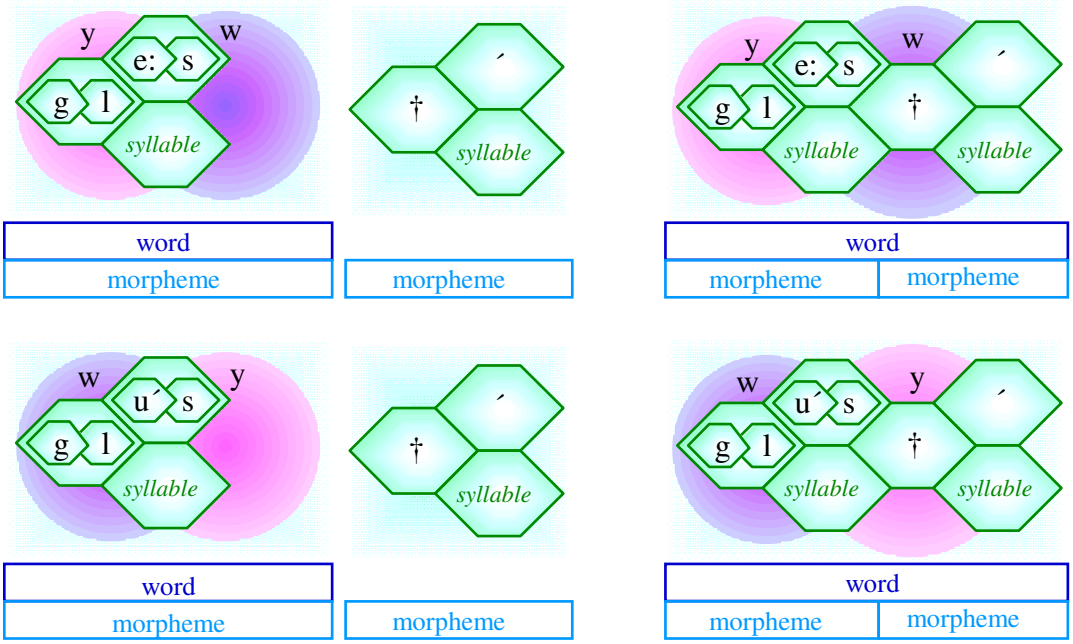
2.1.2.2.2 Concatenation

In concatenation, a phonological feature state extends from *part* of one lexicogrammatical domain to *part* of another, binding the two within a larger — higher ranking — lexicogrammatical unit. The secondary articulation of Irish consonants can be used to illustrate polarised phonological fields performing a concatenative function. As recounted in the previous chapter, Irish consonant clusters are either palatalised or labiovelarised (Úneutral). The secondary articulation extends for the duration of each consonant cluster — affecting adjacent vowels — within the lexicogrammatical domain of the word. This effectively binds together contiguous morphemes within a word.

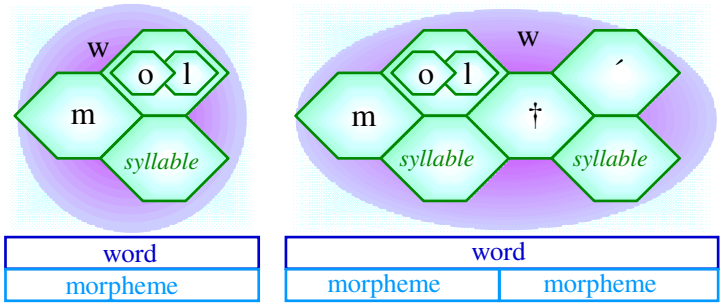
The syllables realising some grammatical (suffix) morphemes take their secondary articulation from the preceding lexical (root) morpheme. The [adjectival] morpheme /†´/ which suffixes to verb morphemes illustrates this. Where the final syllable expressing the verb morpheme ends with a labiovelarised field, the suffix is articulated as labiovelarised, but where the final syllable expressing the verb morpheme ends with a palatalised field, the suffix is articulated as palatalised.

In the representations below, these features are shown as paradigmatic states of fields surrounding the syllables that express the words gléasta /g,l,e:s†´/ 'dressed' and gluaiste /glu´s,†,´/ 'moved', which consist of the verb roots gléas 'dress' and gluais 'move' and an

[adjectival] suffix -taÚ-te.[1] Palatalisation is represented as /y/, and labiovelarisation Ú neutrality as /w/:

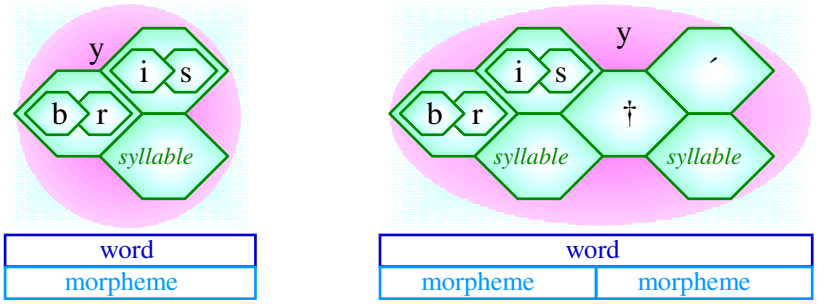


The distinction between concatenative and integrative fields becomes blurred in the case in which all consonant clusters in a word are with the same secondary articulation such that one field can be extended for the duration of the entire word. The resemblance can be illustrated by the words mol /mol/ 'praise' and molta /mol†´/ 'praised', and bris /b,r,is,/ 'break' and briste /b,r,is,†,´/ 'broken', as represented below.[2]



[1] The vowel symbols used here are for ease of exposition only, conforming with phonemic descriptions. The Irish vowel system will be re-interpreted in Chapter 3.

[2] Concatenation fields can be made to resemble integrative fields by interpreting them more prosodically as either [y-stable] (y>y), [y-shifting] (y>w), [w-stable] (w>w), or [w-shifting] (w>y). However, problems arise with y>w>y and y>w>y trajectories, and with designating the point of shift in trisyllabic words categorised as [y-shifting] (y>w) or [w-shifting] (w>y).



2.1.2.2.3 Integrative Vowel Harmony

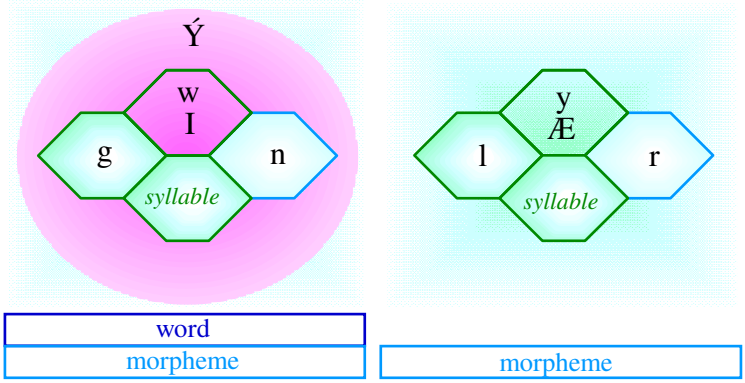
In Chapter 1, Turkish vowel harmony was cursorily interpreted as cohesive in function. This can be examined more closely here. The vowels of Turkish can be described by symmetrical features in three systems: TONGUE POSTURE, in which the terms are {[front] (˙), [nonfront] (ü)}, LIP POSTURE in which the terms are {[round] (w), [nonround] (y)}, and APERTURE in which the terms are {[close] (I), [nonclose] (Æ)}. This yields the eight vowels listed in the following table.

	front (˙)		nonfront (ü)	
	nonround (y)	round (w)	nonround (y)	round (w)
close (I)	i	ü	I	u
nonclose (Æ)	e	ö	a	o

Table 2.1 Turkish Vowels Categorised By Three Binary Feature Systems

In Turkish vowel harmony, a phonological feature of the TONGUE POSTURE system {[front] [nonfront]} extends from a lexical (root) morpheme across all vowel positions in the domain of the word, thus consolidating the word as an integrated unit. This is demonstrated below for the words gün /gün/ 'day' and kız /kIz/ 'daughter' in configuration with the [plural] suffix, which harmonises as ler /ler/ or lar /lar/, depending on the TONGUE POSTURE feature of the preceding lexical (root) morpheme. The TONGUE POSTURE feature is represented as a charged field that extends for the duration of a word, with the susceptible syllable phases transparent and other syllable phases opaque.[1]

[1] Syllable-final consonants are represented as demarcative of morpheme boundaries.


Ý
w
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syllable
word
morpheme
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Æ
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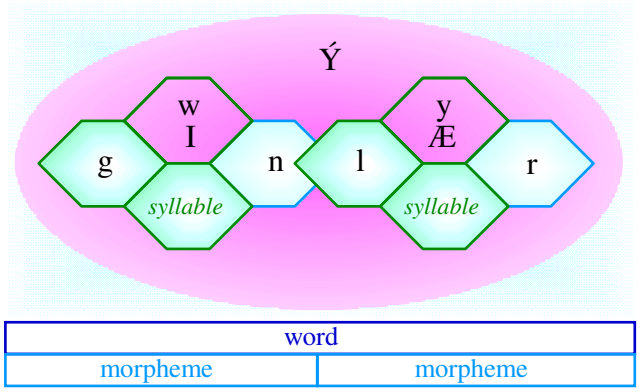
syllable
morpheme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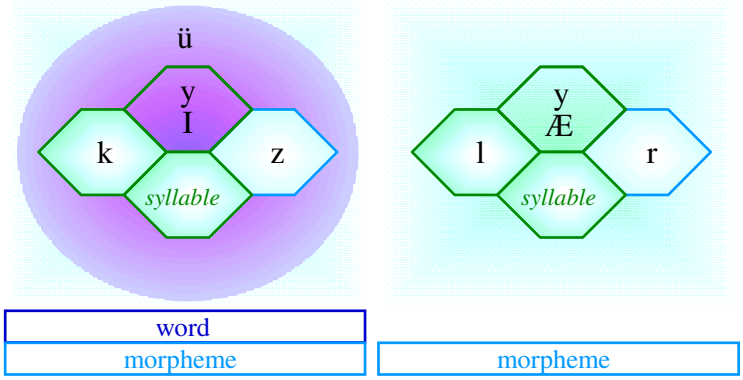
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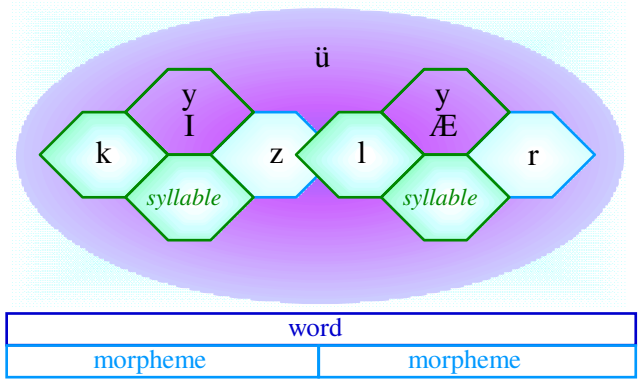
ü
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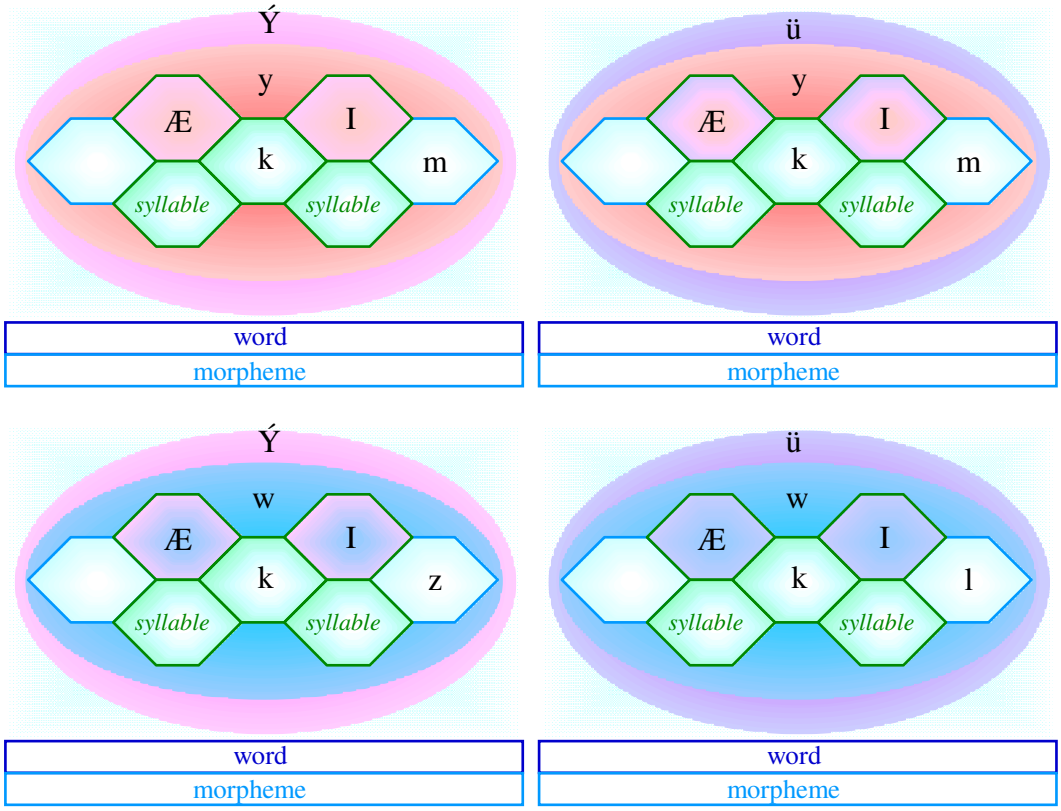
syllable
word
morpheme
morpheme

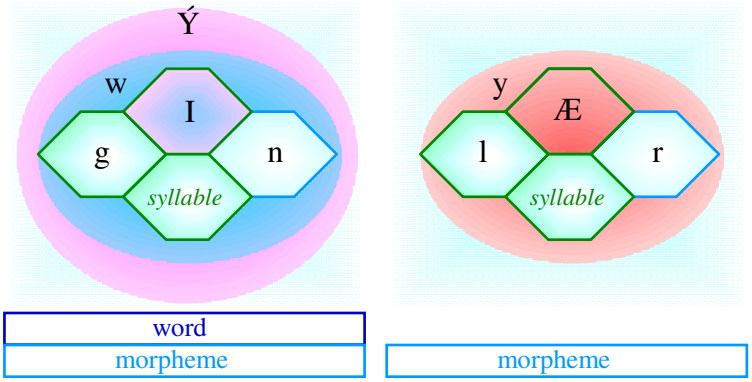
2.1.2.2.4 Concatenative Vowel Harmony

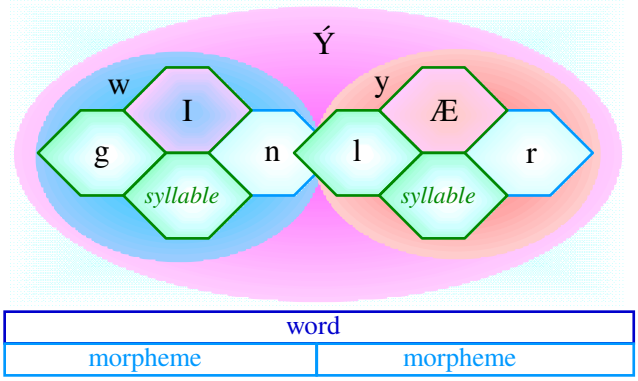
There is a further regularity in Turkish vowel harmony that is not captured by the above representations. It is also true that a phonological feature of the LIP POSTURE system {[round] [nonround]} extends across all vowel positions in the domain of the morpheme, thus consolidating the morpheme as an integrated unit. This is demonstrated by the constraint on vowel combinations in polysyllabic monomorphemic words, as evinced by ekim /ekim/ 'october' and akım /akIm/ 'current', where the vowels harmonise as [nonround], and öküz /öküz/ 'cow' and okul /okul/ 'school', where the vowels harmonise as [round].

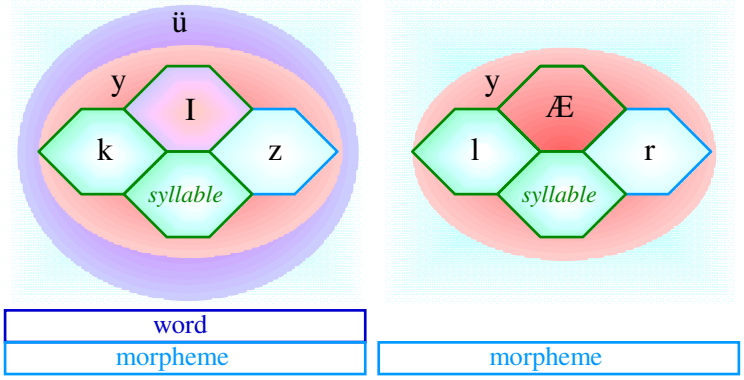
Because features of the LIP POSTURE system function within the domain of the morpheme rather than the syllable, they are better depicted as fields, in the manner of features of the TONGUE POSTURE system which function within the word, as in the following representations of ekim, akım, öküz and okul.

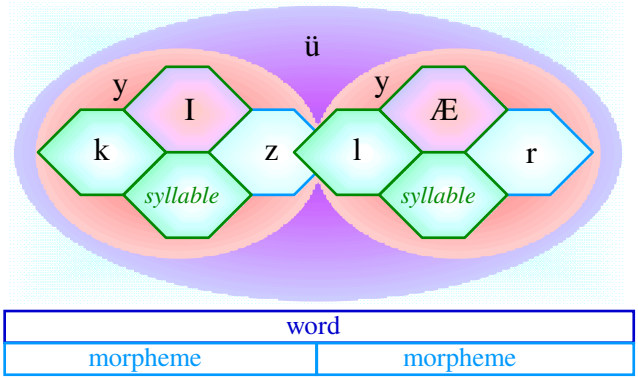


Accordingly, the previous representations of the words gün /gün/ 'day' and kız /kIz/ 'daughter' in configuration with the [plural] suffix ler~lar can be re-presented as follows so as to take the cohesive function of LIP POSTURE into account. In these examples, the LIP POSTURE features distinguish the morphemes within each word.





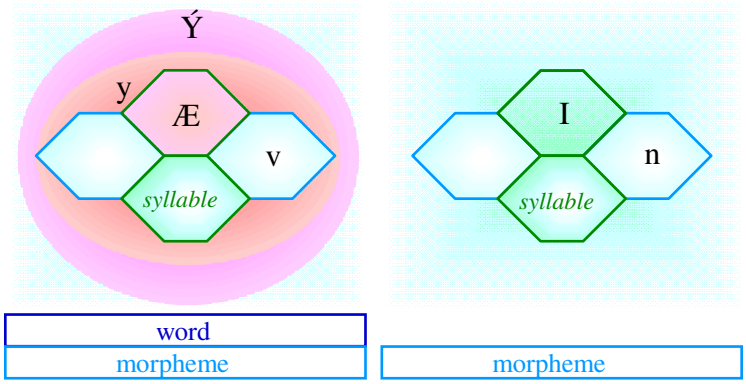


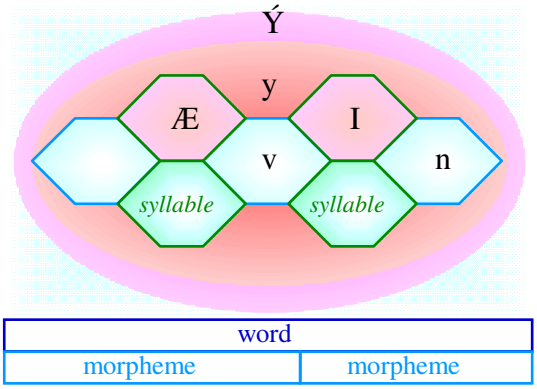


The concatenative function of the LIP POSTURE system in Turkish is demonstrated by those grammatical suffixes whose vowels are only specified as [close], and which take LIP POSTURE from the preceding morpheme, as well as TONGUE POSTURE from the preceding lexical (root) morpheme. The effect of LIP POSTURE harmony is to bind

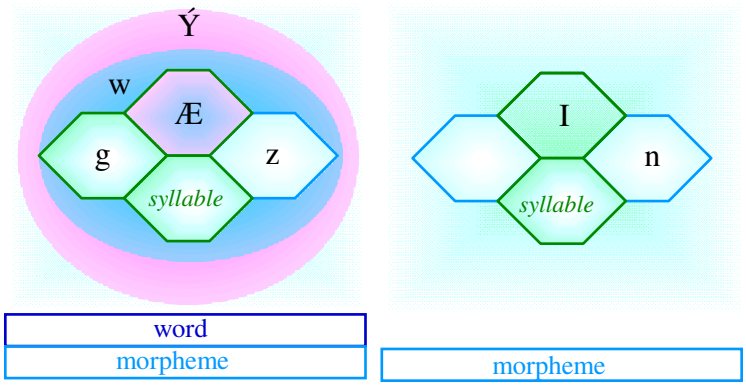
(concatenate) morphemes together within the word, but not necessarily to integrate the word as a whole (as will be seen below). This can be illustrated by the [genitive] suffix morpheme which has four varieties — in /in/ ~ ün /ün/ ~ ın /ın/ ~ un /un/ — depending on the fields of the preceding lexical (root) morpheme.

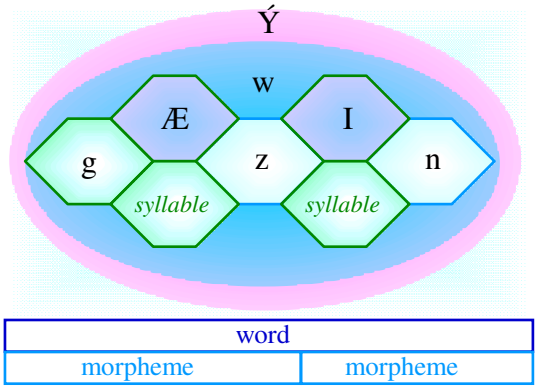
If the lexical (root) morpheme has the word-rank feature [front], and the morpheme-rank feature [nonround], as does ev 'house', then the [genitive] morpheme is realised with the vocalic features [close, nonround, front], yielding evin /evin/, as represented below:



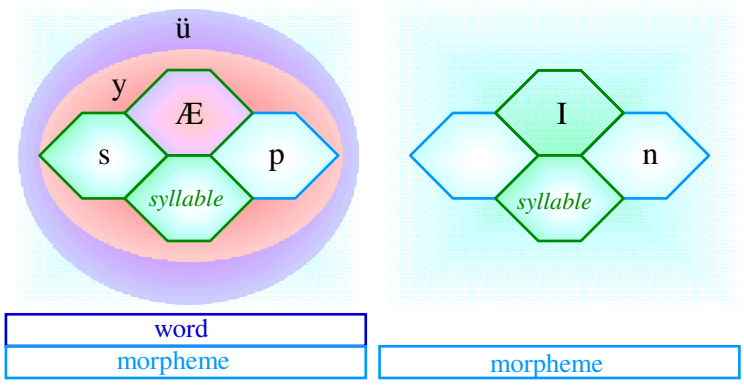


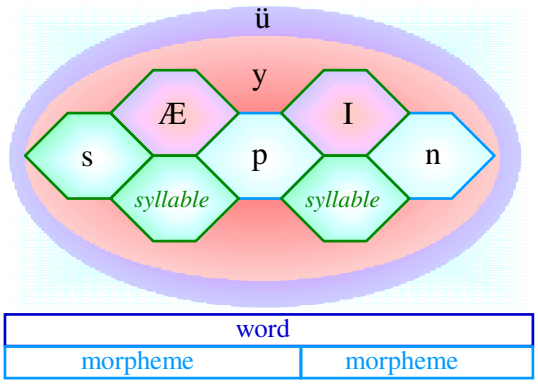
If the lexical (root) morpheme has the word-rank feature [front], but the morpheme-rank feature [round], as does göz /göz/ 'eye', then the [genitive] morpheme is realised with the vocalic features [close, round, front], yielding gözün /gözün/, as represented below:



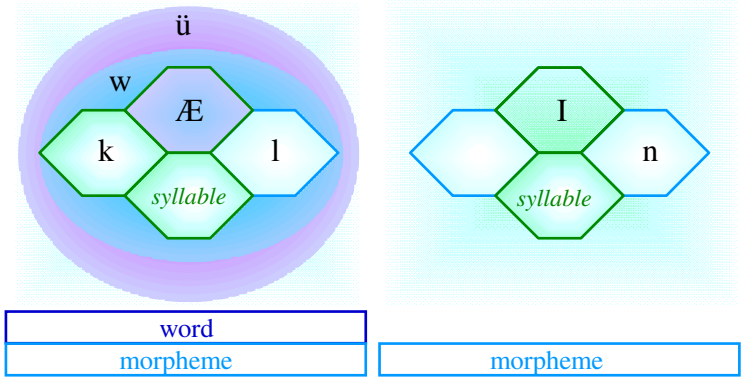


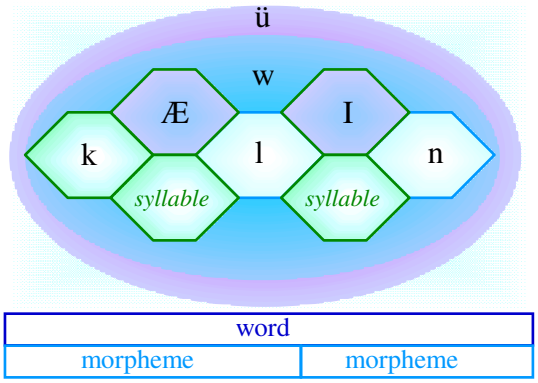
If the lexical (root) morpheme has the word-rank feature [nonfront], and the morpheme-rank feature [nonround], as does sap /sap/ 'stalk', then the [genitive] morpheme is realised with the vocalic features [close, nonround, nonfront], yielding sapın /sapIn/, as represented below:



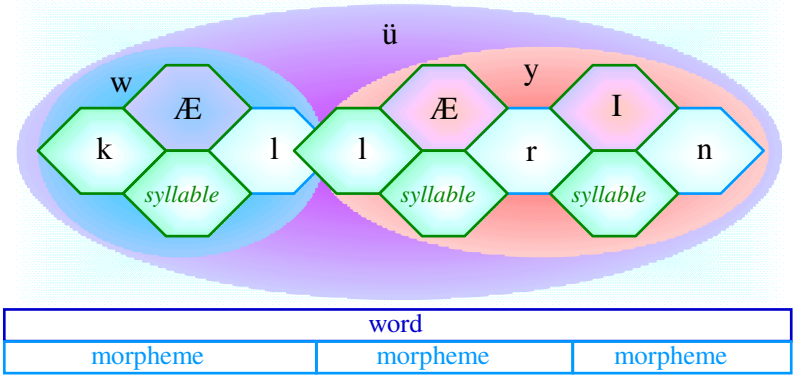


If the lexical (root) morpheme has the word-rank feature [nonfront], but the morpheme-rank feature [round], as does kol 'arm', then the [genitive] morpheme is realised with the vocalic features [close, round, nonfront], yielding kolun /kolun/, as represented below:

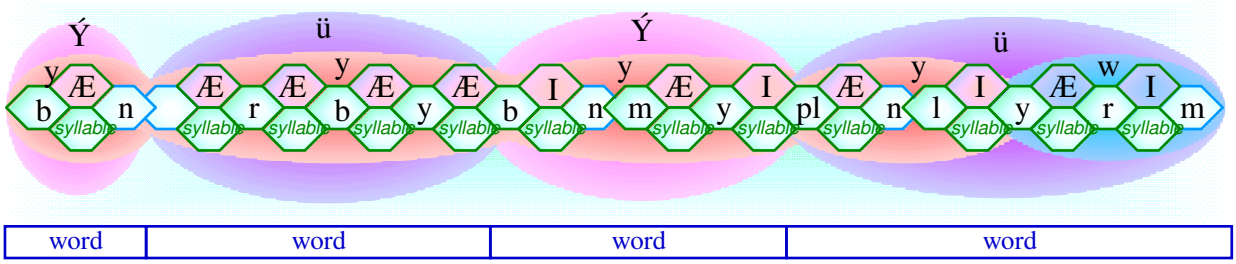




The reason LIP POSTURE harmony is better characterised as a concatenative resource at word rank, than as an integrative resource, is that, because the feature spreads only from the *immediately preceding morpheme*, in many instances morphemes are concatenated within a word, but the whole word is not integrated. This is evident for kolların /kollarIn/ 'arm+plural+genitive', where the suffix takes [nonround] LIP POSTURE from the immediately preceding [plural] morpheme, so that only the two suffix morphemes harmonise, as can be seen below.



Considering the two harmony systems of Turkish, the sentence ben arabaya binmeyi planIIyorum[1] /ben arabaya binmeyi planIIyorum/ (1sg taxi ride plan) 'I am planning to take a taxi' can be represented as follows:



Having given an overview of the genesis of texture in the articulatory field, the discussion turns now to the second of the three phonogenetic fields: that of rhythm.

2.2 Weaving The Texture Of Rhythmic Fields

In Chapter 1, rhythmic texture was said to be effected by systems of rhythmic structure, the Ictus and Remiss phases of the foot, and by the systems of phonological cohesion — specifically demarcation[2] — which signal the syntagmatic extent of lexicogrammatical units. This discussion will first describe the structure of the foot and then relate cohesion to the rhythmic field.

2.2.1 Structure In The Foot Core

This discussion of foot structure will first recall the periodic model of syntagm and then present a complementary perspective founded on the notion of modification. In Chapter 1, the textual structure of the English foot was given as represented in the following diagram.

[1] Data courtesy of Fikret Gürgen (personal communication). According to Clark & Yallop (1990: 139, 338), the Turkish vowels /ö, o/ only occur in initial syllables of word roots. To the extent that this is true, the selection of these vowels, [nonclose, round], demarcates word root-initiality. However, the [present, continuous] suffix yor /yor/, as appears in planIIyorum /planIIyorum/ above, is a common exception, and a productive morpheme given that this lexical root is borrowed from English.

[2] The cohesive function of charged fields of specific tempi will not be pursued here.

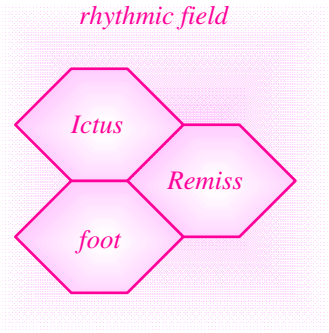


Figure 2.6 Rhythmic Quantum As Textual Structure

Again, the periodicity model of textual structure is not a constituency model of the foot, but a synoptic representation of a dynamic process. The periodicity model of structure presents rhythm as a wave-train of alternating Ictus and Remiss phases. This is to conceive of rhythm as the propagation of a disturbance through a rhythmic field. This propagating wave-front can be depicted dynamically as particle tracing out an undulating path through the field, with each new phase in a new frame, as stills in a film. This perspective is represented below.

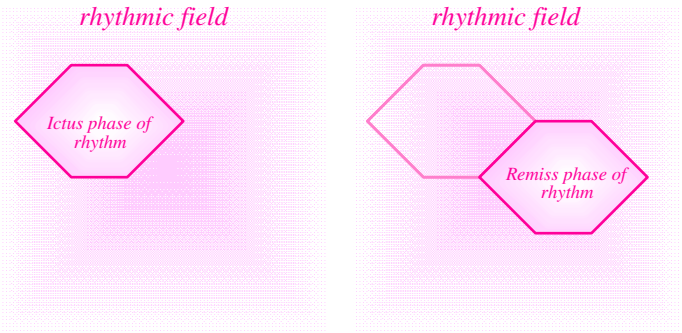


Figure 2.7 Dynamic Representation Of The Textual Structure Of The Foot

A synoptic representation, on the other hand, places all the phases that are probabilistically related to a particular foot within the same frame, thereby creating the *false* impression on paper that the two phases of the particle in motion are two distinct constituent particles. This perspective appears in the figure below.