Style in performance:

the prosody of poetic recitation

Thomas Henry Barney BA Hons. (Leeds) MA (Lancaster)

PhD

Department of Linguistics and Modern English Language

University of Lancaster

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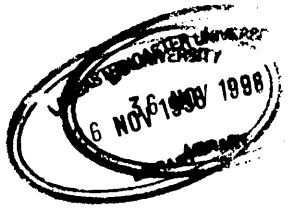

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ABSTRACT

This thesis presents an empirical study of the accentual and pitch patterns of poetic recitation. Its chief aim is to show the prosody of recitation as a substantial contributor to the overall prosodic effect when a poem is read. It uses a small annotated corpus of multiple recitations of two poems, stored in a relational database, a means of investigation which allows prosodic properties of the text and of performance to be clearly separated.

In Section I previous linguistic models of poetic prosody are reviewed, and it is concluded that they have either confined themselves to metre and word-stress patterns, prosodic properties that are inherent in the text, or, if they have investigated performance, have done so unsystematically. The present investigation of performance is then introduced, and the prosodic patterns of the text defined as defaults, which provide starting points that a performance can comply with or depart from.

Section II investigates the accentual patterns of performance. A model of accentuation and accentual patterns is set out, and the circumstances in which accentable syllables can lose their default accents. The accentual patterns of the

recitations are then examined and related to the default patterns, showing the wide variety of ways available to the reciter to resolve or refrain from resolving any tension between speech rhythm and metre, or to add further tension.

Section III examines pitch patterns, regarding them as a system of recurring patterns which cross-cut those of metre and verse form. A new system for classifying pitch patterns is put forward, founded upon the shapes of whole contours and taking account of degrees of resemblance between patterns. This system is used to analyse the pitch patterns of the recitations, in particular the ways in which, within a relatively narrow set of patterns, resemblances and differences between pitch patterns are used to flag syntactic connections and semantic parallelisms in the texts.

Section IV attempts to draw together the different prosodic features into a single, but loosely-structured system; in conclusion some further refinements to the analysis are suggested.

Acknowledgements

I thank my supervisors, Gerry Knowles and Mick Short, who both knew exactly when best to let me carry on alone and when to apply the thumbscrews. In particular I thank Gerry for encouraging my scepticism about received ideas in prosody, for introducing me to relational databases, for reading and commenting on a draft of the entire thesis and for many useful discussions on writing in general; and Mick for providing me with part-time teaching work in the Linguistics Department, for introducing me to the wonderful world of the Poetics and Linguistics Association and for plying me with food and especially drink.

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Many other people have helped me in as many ways. For direct practical help with the research, and for contributing ideas, I thank Art Graesser, Francis Katamba, Geoff Leech, Tony McEnery, David Miall, Francis Nolan, Reuven Tsur and Anne Wichmann; and for various kinds of moral support, Pat Barney, Dexter Bracey, David Hanauer, Judith Poole, Maureen Sheron, Gerard Steen, Angeliki Tzanne, my fellow orchestral players and the staff of Fairfax House and Goodricke College, University of York.

Transcription Conventions

Where I cite other people's analyses, using their annotation systems, these systems are explained in the text *ad hoc*. The transcription conventions of my own analyses are as follows:

As is normal when quoting verse in running text, a slant line / is used to indicated line divisions. I also use a double slant line // to indicate stanza divisions. These symbols are used not only in the body of the text but also in prosodic transcriptions of parts of recitations.

In citations of *accentual patterns*: accented syllables are CAPITALISED; syllables which are unaccented but take a rhythmical beat are indicated by a ` placed before the syllable in question; syllables which are accentable but have lost their accent (whether or not they have a beat) are enclosed in [square brackets].

Pitch patterns are indicated on a three-line stave, the lines representing the top, mid and baselines for the speaker in question.

Prosodic grouping boundaries are indicated by a vertical bar thus: | When accentual patterns are being discussed this symbol indicates a nucleus group boundary; when pitch patterns are being discussed it represents a tune boundary.

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Chapter 1

Introduction

> 'if our art has certainly, for the impression it produces, to defer to the rise and fall, in the critical temperature, of the tell-tale mercury, it still hasn't to reckon with the engraved thermometer face.'
>
> *Henry James*

This thesis is an empirical investigation of the prosody of recited verse. Its purpose is to increase our knowledge of the prosodic structure of verse.

The thesis had its origin in my dissatisfaction with the linguistic models of verse prosody which have been developed up to now. Linguistics has given us much valuable knowledge of English verse prosody but frequently, when reading poetry, I have come across some tension between the metre or verse form and the rhythm of the poem's words and phrases, the *frisson* from which could not be explained by models of prosody which confine themselves to conflicts, considered line by line, between metre and low-level stress patterns. Theories of poetic syntax fared somewhat better, but I was certain that the *frisson* was essentially an auditory one. If it did not come from anything a theory of metre and low-level stress patterns could explain, it presumably resided not in the text but in what I could hear in my reading. To investigate the problem thoroughly could only mean investigating oral performance.

1.1 English and English verse rhythm

Many people have found traditional foot substitution prosody inadequate as a model for analysing the rhythms of English verse. It has been found that a system devised for composing and describing quantitative verse in Latin and Greek does not adapt well to the accent-based rhythms of English verse, and that to regard rhythmic variation as the substitution of different foot types does not capture the rhythmic integrity of metrical beats as they group into whole lines. Much effort has therefore been given to improving upon traditional metrics by applying models of the prosody of English speech in general to the special case of verse.

Some analysts have treated verse rhythm as a temporal phenomenon in which stressed and unstressed syllables are arranged into duple and triple metres, like those of music (e.g. Omond 1903, 1921). Others have assumed that verse rhythm is essentially no different from all English speech rhythm, that both have a stress-timed rhythm, and that the difference between verse and ordinary speech is that in verse the stresses are grouped into lines containing equal numbers of stresses (e.g. Patmore 1857, Abercrombie 1964). Experimental phoneticians have occasionally interested themselves in verse, and have used laboratory instruments to investigate the acoustic features of spoken verse (see the survey in Chatman 1965, chapter 4).

All these approaches have attempted to produce a theory of English verse rhythm which would *replace* foot prosody. Most linguistic analyses of verse rhythm now, however, assume that in metrical verse a recurring regular pattern of stressed and unstressed syllables does exist, as traditional metrics implies, but is varied by the

normal English speech rhythm of the words and phrases which a poem is composed of (see chapter 2). It is the tension between metre and speech rhythm as they alternately coincide and conflict with each other which gives individual poems and lines their rhythmic style.

1.2 The problem of previous linguistic models

The problem with this is that not all of the variations from strict metre which we can feel are caused by conflict between the word-stress pattern and the metre. Take this stanza from William Empson's *Autumn on Nan Yueh*:

> Remembering prose is quite a trouble
> But of Mrs Woolf one tatter
> Many years have failed to smother.
> As a piece of classroom patter
> It would not repay me double.
> Empire-builder reads the yatter
> In one monthly, then another:
> "Thank God I left" (this is my smatter)
> "That pernicious hubble-bubble
> If only to hear baboons chatter
> And coolies beat their wives." A brother
> I feel and it is me I flatter.

The metre is iambic tetrameter (although several of the lines are 'headless', lacking the usual initial unstressed syllable). Some of the rhythmic variation in this stanza does derive from the use of stress patterns which cross-cut the metre. For example, in the line *If only to hear baboons chatter* the strict alternation of stressed and unstressed syllables is varied by the juxtaposition of two unstressed syllables, *-ly to*, early in the line, and of two stressed syllables, *-boons chat-* towards the end. However we cannot appeal to variation of the stress pattern to explain the rhythmic irregularity of the next two lines: the only such variation is the normally unstressed pronoun *it* in the last line

of the stanza, where the metre would lead us to expect a stress; and this is probably the mildest type of deviation from regularity. The enjambment *A brother/ I feel* contributes far more to the sense that regularity is departed from in these lines. According to Attridge (1982:205) a line is complex to the extent that 'regular alternation is... challenged'. Yet regular alternation is strongly challenged in the two lines which end this stanza even though the regular alternation of stressed and unstressed syllables in the words is almost wholly maintained in each line.

To account for this we must look beyond simple stress patterns. If these lines were recited it is likely that the syntactic integrity of the short clause *A brother/ I feel* would cause it to be placed in a single tone group. If this happens then the onset (initial accent) of the tone group is most likely to fall on *bro-* and the nucleus (final accent and terminal pitch glide) on *feel*. The intonation pattern would thus give a sense of prosodic initiation at the beginning of this clause and prosodic completion at the end: the clause would have a prosodic integrity which cross-cuts the prosodic integrity of the lines of verse. It is then quite possible that a similar pattern would be used in the next clause, *and it is me I flatter*, perhaps with onset on *me* and nucleus on *flat-*. In that case the occurrence of the unstressed *it* in a metrically strong position would have an effect over and above the simple mismatch of rhythm and metre, as the three unstressed syllables *and it is* would be proclitic to the accented *me*. The impression of both clauses would be mainly of an onset closely followed by a nucleus; the integrity and likeness of the prosodic patterns of the clauses would challenge, or even cause us momentarily to lose, the metrical integrity constituted by successive lines containing equal numbers of beats.

In short there are aspects of rhythmical tension which a model of verse rhythm that includes only metrical and word-stress patterns cannot account for. The verbal phrasing of the text gives rise to prosodic groupings, accentual patterns and pitch patterns. We clearly need to extend the analysis of verse rhythm to these prosodic patterns. The problem is that no more than metrical and word-stress patterns can be inferred from the printed text of a poem. Accentual and pitch patterns are properties not of the text but of performance. In the stanza from *Autumn on Nan Yueh* for example, a reciter may well render the prosody of the last two lines as described above, but this is merely speculation; there are other possibilities. If, therefore, the study of verse prosody is to be extended to other levels it is essential to study not merely printed poems but recitations by live readers. Such studies of performance have been made from time to time, but have tended to be somewhat unsystematic (see chapters 2 and 13); they have also been rarer than they might have been, as Cauldwell (1994:1-2) complains.

1.3 The present study

This thesis, then, is an empirical study of accentual and pitch patterns in verse recitation. It attempts to study performance in a more systematic way than previous studies have done, using a small corpus of multiple recitations of two poems. It takes the prosodic properties of the text as a given, using them as a starting point for the patterns found in performance. It employs the methodological innovation of a relational database to store the transcriptions of the recitations: this allows the prosodic properties of text and of performance, and different types of prosodic feature such as accentual and pitch patterns, to be annotated and stored separately, in a way

which paper-and-pencil transcriptions do not, then associated as necessary to investigate the association of the different prosodic features; this in its turn ensures that properties of the text and of performance are not confused (see 5.1).

1.4 Outline of the thesis

The thesis is divided into four main sections. The rest of this section deals with preliminaries to the empirical study itself. Chapters 2 and 3 survey previous theories of verse rhythm which have confined themselves to metrical and word-stress patterns, and chapter 4 surveys some studies of the phrasing of verse and its contribution to rhythm. Chapter 5 introduces the relational database as a method of investigation, and also outlines some of the assumptions with which the work was carried out. Chapter 6 then gives a stylistic analysis of the poems used in the investigation, and some information on the body of reciters who made the recordings; it also delimits the areas of investigation, justifying the selection of accentual and pitch patterns by drawing an analogy between poetic and musical prosody. Chapter 7 first argues that the metre and word-stress patterns are the prosodic patterns that are used by default, and as such constitute a foundation for performance which actual performances will take account of but will at times depart from. These default patterns are then set out.

The other sections are devoted to the empirical study itself. Section II deals with accentual patterns. Chapters 8 and 9 set out a model of accentuation and accentual patterns, which in chapters 10-12 is used to analyse the accentual patterns in the recitations, the ways they comply with or depart from the default patterns. Section III deals with pitch patterns. Chapter 13 surveys some previous studies of the pitch

patterns of verse recitations. Chapter 14 examines the inadequacies of traditional intonation theory for capturing and classifying the pitch patterns of verse, and chapter 15 sets out the specially-devised system used in the present work. Chapters 16-18 then give a detailed analysis of the pitch patterns in the recitations, investigating the different degrees of resemblance between patterns from exact repetition downwards. I explore the ways resemblances and contrasts between pitch patterns are used to flag syntactic and semantic relations between the segments of text they map onto. Section IV attempts to relate accentual and pitch patterns as parts of a single system of the prosody of recitation. Chapter 19 looks at the hierarchical relations of rhythmic and pitch-pattern groupings, and at the operation of discontinuity features as a separate level of prosodic organisation. Chapter 20 suggests refinements to the annotation systems, and chapter 21 some other possibilities for future work.

Chapter 2

Metre and speech rhythm

2.1 Wellek and Warren and the multilevelled model

By the end of the first half of the twentieth century a number of attempts had been made to improve on the traditional foot prosody. Wellek and Warren (1949) survey some of these attempts, believing that most of them have conceptual shortcomings.

This belief is partly a belief that new models of poetic rhythm had discarded too much of the old. Wellek and Warren acknowledge that traditional ('graphic') metrics pays 'no attention to actual sound' (1949:166); they realise that there was a problem to solve. On the other hand 'Graphic metrics knows that metre is not merely a matter of sound, that there is a metrical pattern which is thought of as implied or underlying the actual poem'. Critics of traditional metrics have, they believe, neglected the existence of this underlying pattern and have tried to found models of poetic rhythm on observable linguistic phenomena alone.

The musical or temporal scansion briefly popular at the beginning of the century regarded duple and triple metres as the exact equivalents of duple and triple time in music, their feet as tightly controlled and measurable as bars of music (e.g. Omond 1903). Wellek and Warren believe this to be easily applicable only to '"singable"' verse, that is verse with a heavy stress metre. This is the metre defined by Attridge (1995:63) as one in which:

> 'the *stress rhythm* of the language dominates the *syllabic rhythm*, allowing the number of syllables between the beats (and hence the total number of syllables per line) to vary within certain limits, while the number of beats remains constant...[its] strong beats and a constantly changing pattern of syllables producing a song-like quality that never becomes smoothly lyrical.'

This type of verse has something akin to a musical beat and, while the analogy should not be taken too far, this beat can be spoken of in musical terms. But as Wellek and Warren go on to say, (p.167) temporal scansion 'seems highly inadequate in dealing with colloquial or oratorical types of verse and is usually helpless when it has to deal with free verse or any verse which is not isochronic.' One advantage they allow for it, though, is that it could be used to scan metres which traditional metrics could not 'e.g., some of the complex metres of Swinburne, Meredith, or Browning' (p. 168). Temporal metrics did of course flourish more or less contemporaneously with these poets, whose practice influenced English verse for some decades afterwards (Leech 1986).

Wellek and Warren next turn to the attempts a number of phoneticians had made, from about the beginning of this century onward, to analyse the oral performance of poetry using laboratory instruments. They refer to this use of laboratory instruments as *acoustic metrics*, apparently seeing it as a well-defined school of metrical thought, although it seems rather more likely that it was a series of *ad hoc* experiments by people who used similar means of investigation but had few theoretical preconceptions about poetic rhythm. Wellek and Warren acknowledge that the results of the acoustic metrists' investigations have been useful in showing something of the contribution of acoustic features to rhythm, but add that 'laboratory metrics obviously ignores, and has to ignore, meaning' (p. 168). They accuse it of having discarded such notions as the syllable and the word in favour of a continuum

of sound waves, although in fact syllables and words on the one hand, and sound waves on the other, are simply different levels of abstraction. They then assert: 'The whole assumption that the findings of the oscillograph are directly relevant to the study of metrics is mistaken... acoustic and musical metrics share one common... limitation: they rely exclusively on sound, on a single or many performances of reciters'. Where there is tension between metre and the speech rhythm of a particular line or verse, they went on, a number of performances may be possible; but 'the specific performance of a reciter will be irrelevant to the analysis of the prosodic situation, which consists precisely in the tension, the "counterpoint", between the metrical pattern and the prose rhythm' (p. 169). 'Prose rhythm' is the basic stress pattern of the words which are fitted to the metre: it is attention to syntax and meaning, they argued, which is important in determining what the prose rhythm is.

We leave Wellek and Warren, therefore, with their having presented a workable model of the structure of verse rhythm: that of an abstract metre against which the 'prose rhythm' of the words used varies; this view has been shared by almost all subsequent investigators. In putting forward this model they cleared away some of the confusion caused by earlier experimental work done without the guide of a theory of verse structure. But they appear to have lacked any sense ('The whole assumption... is mistaken') that studies of performance might be used to investigate the application of that model and refine our knowledge of the workings of the tension between rhythm and metre and of readers' perceptions of it. The acoustic metrists may in practice have lacked a theory of rhythmic structure, but this does not dispose of experimental work. Wellek and Warren's own theoretical model can be a beginning for experimental investigations.

2.2 Structural metrics

2.2.1 The influence on metrics of the Trager and Smith analysis of stress

When Trager and Smith (1951) published their *An outline of English structure* it was seized upon by several literary critics who believed it contained a descriptive model of English prosody better suited to the analysis of verse rhythm than anything that had gone before it. Whitehall (1951, reprinted as Whitehall 1956) in a review of Trager and Smith which is sometimes regarded as having begun modern literary stylistics, suggested that 'the interconnections between stress, pitch, and transitions analysed so carefully in the *Outline* allow us to envisage for the first time a really objective and fully descriptive English metrics' (1956:415). Trager and Smith postulated four significant degrees of stress in English (distinguished, they believed, by four degrees of loudness): primary (indicated by /), secondary (^), tertiary (\ ) and weak (= unstressed: u) These four levels of stress could be used, for example, distinguish 'lighthouse keeper' and 'light housekeeper' by means of a variation in stress pattern:

/ \ ^ u
lighthouse keeper

\ / ^ u
light housekeeper

(after Whitehall 1956:418)

Trager and Smith also postulated four significant levels of pitch, numbered from 1 to 4, with 1 the lowest and 4 the highest, and four degrees of *juncture* - that is, four levels of prosodic boundary or discontinuity: 'bundles of such distinctive features as prolongation of preceding speech sounds, gradual voice-fade, abrupt voice cut-off, and pitch-fall, pitch rise, or pitch-level sustention.' (Whitehall 1956:417) This model

of English prosody, Whitehall suggested, could be used to investigate English verse rhythm, because:

> 'The traditional "ideal" metrical patterns of much English verse - patterns based on the two-level contrast of stressed versus unstressed syllables - have been "orchestrated" since Marlowe by a poetic adaptation of the actual four-level contrast of speech' (1956:418).

Knowledge of the latter was therefore an aid to looking at metre.

Chatman (1956a) carried out an empirical study of verse recitation which acknowledged and accepted Wellek and Warren's criticisms of 'graphic', 'musical' and 'acoustic' metrics. He accepted their model of verse rhythm, of a tension between metre and 'prose rhythm', but believed that by using Trager and Smith's model of prosody the performance of verse could be investigated systematically. 'Far from abandoning the older two-valued metrics of alternating stresses', he wrote, his method

> 'tries to account for the phonological complexity of verse by envisaging a tension between *two* systems: the abstract metrical pattern, as historical product of the English verse tradition, and the ordinary stress-pitch-juncture system of spoken English, determined as it is by the requirements of meaning and emphasis... [The Trager and Smith system has] the kind of uniformity which any system of prosody needs for making general statements... [It] demands a comparison between actual oral performances of poetry and abstract traditional English meters' (pp. 422-3).

Chatman took eight recorded performances of Robert Frost's poem *Mowing* (including one by the poet), transcribed them, and annotated them for stress, pitch and juncture. He then used his annotations to draw inferences about the verse and its structure. These, however, are sketchy, and treat what seems an almost random collection of topics. There are some attempts at disambiguation of the poem. For example in the line:

My long scythe whispered and left the hay to make

Chatman had previously assumed that the accentual pattern of the last five words was

left the hay to make

He assumed that *scythe* was the subject of *make*, and *hay* its object; that *left the hay to make* meant 'left in order to make the hay'. Frost himself, however, read these words as

left the hay to make

which suggested to Chatman that *hay* is the subject of *make* and that *make* has 'a special intransitive sense... "dry out"' (p. 431).

There is an account of the links between the prosody of the recitations and the poem's punctuation, which is mainly descriptive rather than interpretative. There is some discussion of the link between the prosody of the recitations and the abstract metrical pattern: Chatman observes that there is a close correspondence between the two at the beginning of the poem, which he believes sets up a norm 'so that a basis for future tensions can be established' (p. 436). There are some accentual patterns suggestive of the tension between speech rhythm and metre. For example the pattern

What was it they wanted

was by some readers eschewed in favour of greater prominence on *was* since it is *was* that carries the metrical ictus. On the other hand the word *about* in the lines 'Perhaps it was something about the heat of the sun,/ Something, perhaps, about the lack of

sound' was by no reader given more than tertiary stress even though *-bout* is ictic. This, said Chatman, demonstrated 'The close interplay of sound and meaning' and 'the functional, plastic nature of most readings' (p. 437). But there is little attempt in Chatman's article to form a theory of the tension between rhythm and metre; he hopes only to give examples 'to illustrate the principle of tension' (p.438). Nonetheless there are hints here of the value of recitations to studies of verse rhythm: 'metrical tension lies in the poet's subtle modification and evasion of the expected, *plus* the performer's keenness in interpreting the poet's intentions' (pp. 423-4). This does appear to imply that the performer's interpretation can be used as a guide to the poet's use of metrical tension.

Yet Chatman's example of empirical work on verse rhythm was not followed, although the Trager and Smith model of prosody did become absorbed into critical discussion of the subject. Epstein and Hawkes (1959), for instance, used the Trager and Smith model simply to list all the possible manifestations of the iambic foot; that is, all possible combinations of two of the four stress phonemes which could make up an iamb. Notoriously the number of such combinations they believed to exist was 6236 (see Attridge 1982:33). They made no attempt to discover what accentual patterns did in fact occur in recitation, no attempt to investigate readers' experience of verse prosody. Their approach was purely taxonomic.

2.2.2 Roman Jakobson's distinctions

Jakobson (1960) cleared much ground by making his distinctions between **verse design, verse instance, delivery design** and **delivery instance**:

> 'Far from being an abstract, theoretical scheme, meter - or in more explicit terms, *verse design* - underlies the structure of any single line - or, in logical terminology, any single *verse instance*. Design and instance are correlative concepts. The verse design determines the invariant features of the verse instances and sets up the limits of variations.' (p. 364)

The distinction between verse design and verse instance is the same distinction as that made by Wellek and Warren, between metre and prose rhythm respectively (see 2.1). At the same time

> 'A variation of *verse instances* within a given poem must be strictly distinguished from the variable *delivery instances*... How the given verse-instance is implemented in the given delivery instance depends on the *delivery design* of the reciter; he may cling to a scanning style or tend towards prose-like prosody or freely oscillate between these two poles.' (pp. 365-6)

Here we have a distinction between three levels, metre, prose rhythm and performance: a poet may compose a line in a given metre whose word-stress pattern varies against the abstract, invariant metrical pattern, but someone reciting the line may or may not convey this variation in the accentual pattern they use when doing so: they may prefer to 'read for the metre' or to bring out the variation or to do something in between. Jakobson is clear that we need all three levels of metre, prose rhythm and performance. For example in this line from Act III of *Hamlet*:

> No, let the candied tongue lick absurd pomp

the lexical stress pattern of *absurd* runs against the iambic metre; verse instance departs from verse design. The tension so caused exists regardless of how an actor may deliver this line, whether reciting for the metre, for the lexical stress pattern or making some such obeisance to both as increasing the prominence of *ab-* without sacrificing the greater prominence of *-surd*. 'The verse shape of a poem remains completely independent of its variable delivery' (1960:367). This is true enough; but we can use the distinctions Jakobson makes to clarify our approach in empirical work: delivery is separate from the verse shape but the deliveries we encounter are a guide to readers' view and experience of that shape; and disagreement between readers as to the form of a delivery is evidence of where the tension between verse design and verse instance is at its greatest.

2.2.3 Chatman's later work

Chatman (1965) made some attempt to fuse acoustic and structural metrics. He surveyed previous laboratory investigations of verse rhythm and concluded, as had Wellek and Warren before him, that these investigations did not relate the measurements they made to perceptible linguistic or metrical entities; Chatman then attempted to do so. He began by setting out a typology of English syllables: any English syllable could be classified as a fully-stressed monosyllabic word (which may or may not be reducible); the lexically stressed syllable of a polysyllabic word; unstressed unreduced or unstressed reduced. Chatman then set out the combinations of these types which could be used to realise iambic and trochaic feet. He then used these classifications as the basis of an empirical investigation of recitations.

Eleven commercial recordings of Shakespeare's eighteenth sonnet were played to a panel of listeners, who were asked to identify the stress patterns used in each line that they heard recited. Their responses were then compared with spectrographic analyses of the recordings to try to determine how judgements of where the beat falls were cued, especially where the lack of a clear indication from lexical stress means that listeners must disambiguate from other cues. His conclusions, summarised, were:

> '1) Lexical stress unambiguously marks ictus, regardless of the phonetic actuality, unless overridden by accent.
>
> 2) Pitch change is most effective in marking ictus if lexical stress is not a definitive criterion. It functions most powerfully if it is accentual, but pitch obtrusions which are allophonic may also signal ictus in a clear-cut fashion. Length is less effective, although it does operate where pitch is not sufficiently obtruded. Loudness seems least effective; it occasionally operates in the absence of other cues, but most of the time it has little impact. Indeed, if often actually conflicts with concurrent features without upsetting the perception of ictus.
>
> 3) Foot-reversal may be effected where lexical stress is not definitive, but ictus then requires a comparatively greater degree of prominence than it does in the normal foot. The metrical set operates so strongly that a pitch change usually needs to be accentual to reverse the foot.
>
> 4) Vowel reduction generally shows that reducible monosyllabic words are unstressed and hence non-ictic. In very rare cases, accentual features may promote a syllable containing a reduced vowel to ictus.
>
> 5) The difference between the pyrrhic foot and spondee is largely one of the relative length of the syllables. The clearest instances of spondee occur where both syllables are accented in the same way, preferably with an intervening terminal.(pp. 182-3)

When lexical stress signals the stress pattern of the metre 'one cannot very well alter them without distorting the language itself'; consequently feet whose pattern is fixed in this way 'are *meter-fixing*'. They are used by poets to establish the metre, while 'on the reader's side, they are the sorts of clues which most help him to ascertain the metrical intention of a poem.' But where lexical stress does not unambiguously mark

the metre the lines 'are not so much meter-fixing as meter-fixed. They contain feet in which the position of ictus is wholly or in part determined by the metrical set established by preceding sequences.' (p. 133)

2.3 Roger Fowler: rhythm as the phonology of grammar

Roger Fowler published a series of articles on rhythm and syntax in verse. Fowler felt that it was not necessary to investigate performance of verse, or listeners' perceptions of it. In a review article (Fowler 1966b) on Chatman's book he quotes Chatman's conclusions and comments:

> 'if the book teaches us only to produce ictic analyses by committee, its ultimate message is too limited. It does not take structural linguistics to allow us to carry out that sort of operation... What structural metrics is well-fitted to do is explain the differences between, say,
>
> Pinn'd, beaten, cold, pinch'd, threatn'd and abus'd
>
> and
>
> Immutable, immortal, infinite
>
> A generalization to ∪ – | ∪ – | ∪ – | ∪ – | ∪ – | is not adequate' (p.166)

And:

> 'The prose rhythms of English are in fact *the phonology of its grammar*, and are quite open to analysis... they need not be deduced from performance.' (p. 169, my emphasis.)

To define prose rhythm as *phonology* implies that it is an invariable core from which the accentual pattern of performance may vary but which it does not destroy. It also implies that this core is perceptible to any reader of verse, so that it is not necessary to investigate performance in order to discover it. As well as this, Fowler writes elsewhere of 'the inadequacy of a purely phonetic approach for making critical

statements about phonetic form' (Fowler 1966a:83). Syntax and lexis have also their place in this 'phonetic form':

> '[The] metrical skeleton has to be filled out by linguistic elements - grammatical and lexical units - which have their own expectation of phonological form... units of grammar have their own stress patterns which... may or may not correspond with those of the metrical matrix they are made to occupy.' (1966a:84)

Fowler put forward a scale of the degree of mismatch between syntactic constituents and the metrical line: broadly speaking the smaller the syntactic unit interrupted by a line boundary the greater the sense of tension, so that for example when a phrase is divided by a line boundary there is greater tension than when a clause is. Fowler regarded this as a level of analysis yielding more critical insight than could the listing of the accentual patterns of recitations.

In Fowler (1968:155-6) Fowler summarised his view of the predictability of prose rhythm, setting out four rules for stress patterns: that polysyllabic words have one main stress; that in connected speech content words are normally more prominent than function words; that this rule can be overridden when special emphasis is required; and that intonation contours are usually coterminous with 'the syntactic unit clause... and with some types of phrase'. Of his rules he claimed: 'Little more than this is necessary to signal the positions of ictus in a line' and 'my remarks about "stress", "prominence", etc. have [no] necessary connection with the physical properties of a delivery instance. If one has an adequate metrical set and understanding of the language, one will perceive verse instance.' (p. 170) The answer to the question posed by Fowler's title - 'What is metrical analysis?' - is that metrical analysis is the analysis of the tension between verse design, and verse instance in

Fowler's broader definition of 'grammatical and lexical units' and their 'expectation of phonological form'; it is the nature and degree of this tension which determines the verse's *texture* (Fowler 1971).

While it is true that stress and accentual patterns are predictable in the way that Fowler suggests, the predictive rules that he gives are rules for what happens by default. The patterns that actually occur may depart from these default patterns: although content words are normally accentable, for example, they may lose their accents in connected speech precisely as a result of being incorporated into syntactic units (see 9.3.1). This accent loss is bound to affect the nature of the tension between speech rhythm and metre when verse is read, but is not readily predictable simply from the nature of the words used. Amongst the questions that Fowler believes metrical analysis should answer is: 'When a practised reader of poetry reads a poem silently or listens to an oral reading, what is the nature of his experience?' (1968:142) But silent readings and oral performances are likely to contain accentual patterns (heard or imagined) which vary from the predictable default patterns, and these will affect the reader's or listener's experience. Indeed the prosodic patterns a reader uses are a guide to the nature of the experience. To 'reads a poem silently' and 'listens to an oral reading' we can add 'makes an oral reading': the correspondence between metre and syntax and its contribution to poems' style are, as Fowler suggests, more fruitful areas of study than is 'producing ictic analyses by committee', but the empirical investigation of poetic performance is still a necessary technique if readers' experience of that style is to be properly documented.

Chapter 3

Rhythmic variation and metricality

The idea of tension between speech rhythm and metre has had various developments. This chapter deals with two approaches to the study of verse rhythm which have been concerned with the limits of metricality; with answering the question, how far may the rhythm of a particular line differ from the abstract metrical pattern before it ceases to an instantiation of that pattern? *Generative metrics*, which I deal with first, has attempted to devise rules that specify what constitutes a metrical line. Derek Attridge's rather different approach does this too, but is also concerned with the reader's experience of the tension between regularity and irregularity as rhythmic variation takes place.

3.1 Generative metrics

Generative metrical theories began to be developed during the second half of the 1960's, and dominated the study of verse rhythm throughout the 1970's. Although in recent years other approaches have broken this dominance, attempts are still being made to devise improved generative theories (e.g. Hansen 1994).

The purpose of generative theories of metre is to devise a set of rules which 'define the limits of metricality' (Attridge 1995:219), whether in general for a particular metre, or for particular poets' handling of that metre. The aim is to be able to specify of a given line whether it is metrical or not; to generate all and only the

metrical lines. They attempt to identify what constraints on metricality poets work with, in particular patterns of phrase accents identified with syntactic patterns. Various models have been devised over the years, and each has been claimed as an improvement on its predecessors.

3.1.1 Halle and Keyser

Generative metrics began with the theories of Halle and Keyser (Halle and Keyser 1966, 1981) who put forward a theory of the iambic pentameter. They followed previous approaches in holding that metre is an abstract pattern against which the stress pattern of actual lines may vary; they devised *correspondence rules*, which specify what variations are permitted. In the most refined form of their theory (1981) the abstract pattern for iambic pentameter consists of a series of alternating weak and strong metrical positions, thus:

(w)swswswsws(x)(x)

where the bracketed items are optional, and where the x positions may only be occupied by an unstressed syllable (these are the positions realised by feminine endings, where used). The first correspondence rule states that each position is occupied by a single syllable, or more than one in contexts where elision is permitted. Then comes the crucial correspondence rule, which specifies allowable deviations and reads as follows:

'Definition: When a stressed syllable is located between two unstressed syllables in the same syntactic constituent within a line of verse, this syllable is called a *stress maximum.*

'stressed syllables occur in s positions and in all s positions;
or
stressed syllables occur only in s positions, but not necessarily in all s positions;
or
stress maxima occur only in s positions, but not necessarily in all s positions.'

(Halle and Keyser 1981:211-212)

Of these alternatives, the first is satisfied by the first line of Gray's *Elegy*:

The curfew tolls the knell of parting day
w s w s w s w s w s

On the other hand, in:

And leaves the world to darkness and to me
w s w s w s w s w s

'the fourth s violates the first but not the second alternative', while in the opening line of Donne's sonnet:

Batter my heart, three-person'd God, for you
w s w s w s w s w s

'the first s violates the first alternative... but not the second, and the first and third w violate the second alternative, but are allowed by the third alternative (p. 213).

However, in Keats's:

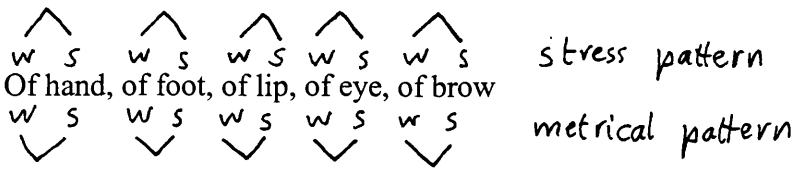
How many bards gild the lapses of time
w s w s w s w s w s

'[the] line is unmetrical since it contains a stress maximum in the fourth w position' (p. 214). Halle and Keyser go to some length to provide a special explanation as to why Keats should have used a line which they regard as unmetrical.

The ordering of the alternatives in this correspondence rule is deliberately designed so that each successive alternative admits of more complex lines than its predecessor; as Halle and Keyser point out (p. 214), poets differ in the complexity of the lines they habitually use. Much of generative metrics has attempted to specify minutely the limits of particular poets' complexity, and the differences between poets in this respect.

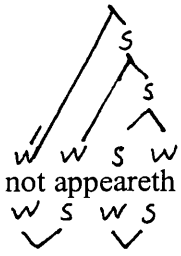
3.1.2 Kiparsky

Kiparsky (1977) uses a different model and notation. For him, as for Halle and Keyser, in referring to the abstract metrical pattern 'We refer to odd positions in iambic verse as W(eak) and to even positions as S(trong) (1977:191). The linguistic stress patterns of actual lines are represented by trees 'where each nonterminal node immediately dominates an S (for Strong) and W (for Weak)... Each syllable corresponds to a terminal node and each linguistic constituent corresponds to a node. Primary stress is then located on the syllable with an S that is dominated only by Ss all the way up the tree' (p. 193). A line of iambic pentameter can be represented as having an abstract tree pattern W S W S W S W S W S. A separate tree diagram represents the linguistic stress pattern; the two trees can be compared for mismatches between them. In the following line we have a perfect match:

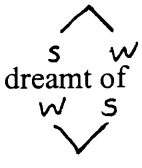


(Shakespeare: Sonnet 106)

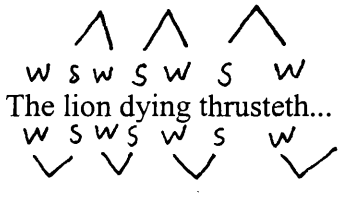
Kiparsky aims to write rules specifying which mismatches are permissible in a metrical line, and which are not, and 'to characterize the complexity of a metrical line in terms of the mismatches in it' (p. 194). For example in Shakespeare's verse an S terminal node does not occur in a metrical W position if the S is a 'lexical stress'; by 'lexical stress' Kiparsky means the lexically stressed syllable of a polysyllabic word. Other mismatches, however, are permissible. For example the mismatch



which is used by Wyatt, would not have been used by Shakespeare, because 'the lexical S of the penultimate syllable corresponds to a metrical W' (p. 195), while a mismatch such as



where the stress on *dreamt* is not lexical in Kiparsky's definition, could be and indeed is used by Shakespeare. Mismatches such as these, where a linguistic S occurs in a metrical W position, or vice versa, Kiparsky calls *labelling mismatches*. But there are also *bracketing mismatches*, for example:

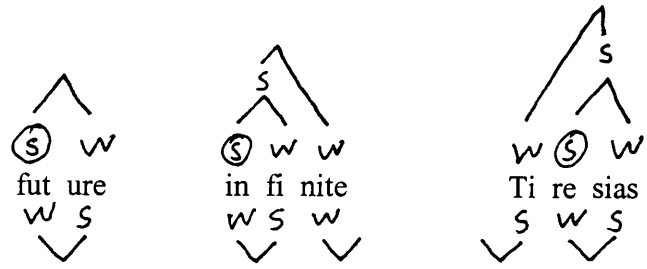


where, although the correspondence of W and S nodes is identical between the two levels, they are grouped differently by the trees (p. 196).

It is at the level of the bracketing mismatch that Kiparsky demonstrates a difference in the metrical practice of Shakespeare and Milton. In lines of Milton's such as:

> Beyond all past example and *future*
> Through the *infin*ite host, nor less for that
> And *Tiresias* and Phineus prophets old

a lexical S occurs in metrical W position - the very licence Shakespeare does not permit himself - in the stressed syllables of the italicised words. (Although Milton's use of this licence may come from the use of stress patterns based on Latin, for example stressing the second syllable of *future*.) Kiparsky shows that the use of this labelling mismatch is constrained by the fact that it never co-occurs with a bracketing mismatch:



'the offending lexical S (circled) always corresponds to a lexical W in the same metrical foot' (p. 202). Kiparsky goes on to show that several other poets, including Donne, Wyatt and Hopkins, also allow such labelling mismatches under this constraint, and argues that most English poets also impose the same constraint on their use of non-lexical Ss in metrical W position.

3.1.3 Hayes and metrical grids

More recently Hayes (1983) has put forward a metrical model based on metrical grids, claiming that this gives a more elegant representation of mismatches than do tree diagrams. The metrical grid is a means of representing rhythmic patterns in speech, associated particularly with metrical phonology. The grid consists of a series of columns, of various heights, composed of numbers of marks, usually Xs or dots. The relative prominence of a syllable in a rhythmic patterns is shown by the number of marks the column above it contains. At the lowest level every syllable is given a mark. At the level immediately above that all normally accentable syllables (essentially monosyllabic content words and the stressed syllables of polysyllabic words) are given an additional mark. Above that further marks are added as necessary 'so that the strongest syllable of every strong metrical constituent has more marks than the strongest syllable of its weak sister' (Hayes 1983:366). Hayes modifies this

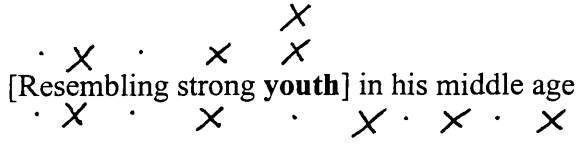
system to the extent that he abolishes the lowest, syllabic, level then at the next level up distinguishes unstressed syllables by marking them with a dot rather than an X; all syllables which have Xs at all are then referred to a *grid marked* (p. 368).

We can therefore represent the abstract grid for iambic pentameter as:

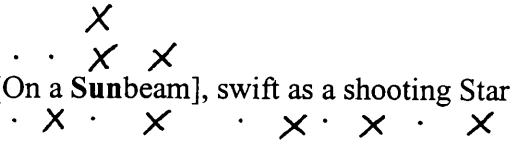
. X . X . X . X . X

The grids for actual lines will match this to a greater or lesser degree. Hayes calls the rules which specify permissible mismatches *metrical filters*, and notes that 'The other central notion in this system will be the assignment of *domains* to metrical filters: the filters may only analyze material lying within a specified domain, such as the word or the phonological phrase' (p. 376).

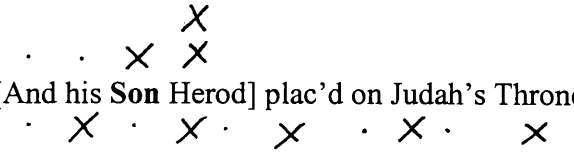
With these tools he is able to represent Milton's constraint on the placing of stresses in metrically weak positions, which Kiparsky models as an avoidance of bracketing mismatches in such contexts, as being that for Milton such a stress cannot be a grid peak occurring finally in a phonological phrase. Thus



could not be metrical for Milton because *youth* is in a metrically weak position, is a peak (it has one more X than its neighbour *strong*) and is the last syllable in the phrase indicated by the square brackets. (Kiparsky would say that this is unmetrical for Milton because *strong youth* is a node in the tree that cuts across the metrical feet.) On the other hand:



and



are metrical for Milton because the peaks, *Sun-* and *Son*, though in a metrically weak position, are not phrase-final.

Shakespeare, on the other hand, prohibits phrase-final peaks only if the preceding syllable is not grid-marked. Thus for Shakespeare the first of the three examples given above is metrical because *strong*, which precedes the peak on *youth* does have one X (p. 377).

In Hayes (1989) Hayes takes further the idea that metrical filters are the property of prosodic domains, claiming that 'metrical rules never refer to syntactic bracketing, only to prosodic bracketing. In other words, syntax has effects in metrics only insofar as it determines the phrasings of the Prosodic Hierarchy' (1989:224). The prosodic hierarchy is the hierarchy of prosodic grouping used in metrical phonology (e.g. Nespor and Vogel 1986) which he employs at length in an analysis of

Hiawatha before claiming finally that the same general principles apply *mutatis mutandis* to all English verse.

3.1.4 Problems with generative metrics

There are a number of flaws both in the general approach and in the detail of generative metrics. In the first place some of the rules are simply wrong, generating some unmetrical lines and forbidding some metrical ones, as Attridge (1982) points out at length. For example of the Keats line

> How many bards gild the lapses of time

which Halle and Keyser regard as unmetrical, Attridge says that 'though exhibiting a high degree of deviation from the metrical norm, [it] is recognisable as an iambic pentameter - that is to say, it has five clear beats, and the omission of the unstressed syllable after "bards" is made good in "lapses of"' (p. 42). And when unmetrical lines are unwittingly admitted by generative models it is, Attridge suggests, because 'it is not difficult to devise a rule which will account for every line in a given metre... ; it only becomes a meaningful rule if it distinguishes between the lines that occur and those that do not occur' (p. 50).

As well as this, as Attridge also points out, the metrical models put forward by the generative metrists may have an abstract elegance about them, but their elaboration is rather far removed from the reader's experience of the primitive pulse of rhythm, which even in highly literary verse is never far away:

> 'One of the unsatisfying features of the generative approach is that... it has lost touch with the material out of which verse is fashioned: the sounds of the language moving rhythmically through time...generative theories operate at a much higher level of abstraction; the criterion by which rules are judged is that they generate the correct sequence of syllables, in as economical a manner as possible, but not necessarily that they embody the rhythmic perceptions of the reader or hearer.' (p. 53)

A consequence of this not noticed by Attridge is that the claims made for the various generative models are in part disputes about different systems of notation and their properties, although the authors of the theories do not seem to be fully aware of this. There is a clear resemblance between the phenomena examined by the various theories: essentially they are all concerned with the circumstances in which stresses can be juxtaposed in an iambic line. Yet Hayes (1983), for example spends some pages arguing that metrical grids are necessary for the modelling of metre (e.g. p.371) as if this were a matter of the actual basis of prosody. Disputes of this kind seem at best a diversion from the investigation of verse rhythm itself.

A more fundamental problem is with the very nature of the generative enterprise. Inadequate metrical rules can be corrected: both Halle and Keyser and Kiparsky have produced updated versions of their earlier theories, while new theories have often in part constituted attempts to tighten up other authors' theories. But Gilbert Youmans (Youmans 1983, 1986, 1989) has questioned the validity of trying to define absolutely the boundaries of metricality. He observes that:

> 'Any formally rigorous theory of meter is bound to identify a certain residue of verse lines as exceptions. Consequently, metrists in every camp have been able to cite numerous counter-examples to rules proposed by their opponents, while equally numerous violations of their own rules are dismissed as random exceptions.' (1983:67)

The solution he suggests to this problem is as follows:

> 'the boundary between metrical and unmetrical lines is "fuzzy" rather than exact. If so, then the goal of metrics should be to formulate a suitable definition of "degrees of metricality", rather than an arbitrary distinction between metrical and unmetrical lines. Metrics need not concern itself overmuch, then, with peripheral exceptions.' (1983:91)

Youmans observes that 'Most of the disagreements among metrists disappear once iambic pentameter is treated as a fuzzy set' (1986:401), and in an extended analysis of Milton's metre (Youmans 1989) argues for the establishment of metrical prototypes, which 'need have no exact counterparts in actual verse [but] are the yardsticks by which metricality is measured' (p. 346). He shows that degrees of metricality can be established statistically by measuring the degree of actual lines' deviation from the prototype; the same approach can be used to establish lines' complexity. The determinants of complexity Youmans, suggests, extend beyond mismatches between the abstract pattern and the stress pattern of a line, and take into account factors such as the positioning of caesurae. Metrical rules, he suggests, (p. 345-6) should be regarded not as categorical but as statistically normative. He believes that 'some lines (like Gascoigne's) are more clearly iambic than others (like Donne's), and some lines are clearly not iambic, but the borderline is hard to draw' (1986:400). There is, then a distinction between metrical and unmetrical lines even if we cannot say exactly where the set of metrical lines ends and that of unmetrical lines begins. On this view poets presumably compose metrical lines by keeping within a, to them, acceptable distance of the prototype; individual differences as to what is an acceptable distance account for differences between poets' metrical styles.

A consequence of this for the present work is that, if categorical rules for metricality are not possible then in a sense metricality can look after itself. We know the principles on which readers of verse sense a rhythmic pulse in even a complex line and some of the ways in which they may come to regard a line as unmetrical; but it is not necessary to define this ability absolutely: the boundaries of metricality may be the better for being left indeterminate, and ambiguity sometimes admitted. If we do this we can turn to the study of other aspects of verse rhythm than metre.

Freeman (1968) used the Halle and Keyser theory to define the differences between the metrical styles of different poets: this is a more fruitful use for generative theory than defining the precise limits of metricality, probably the best use it can be put to, although it is not necessary to be a generative metrist to do it (for example Chatman (1967) does a similar job). Yet generative metrics has dealt with mismatches between speech rhythm and metre at the most basic level, that of word stress: in this it did not advance beyond 'prose rhythm and metre' analyses. We should perhaps accept that analysis at this level has gone far enough, and that we should now move beyond it to investigate how readers map prosodic patterns onto verse structure as they read; the rhythms they actually use. Standop (1975:75) in his critique of the Halle and Keyser theory ends by making a similar suggestion:

> 'It is right that the realization (the reading or recitation) of verse should be kept distinct from its metrical description. On the other hand, verse ought at the same time also to be understood as an auditory entity, since it is composed (at least most of it) with realization in mind. It is therefore necessary not to lose sight of possible realizations as the background, so to speak, of metrical analysis; and wherever it is expedient, appropriate descriptive techniques must be available which take possible realizations into account. It is not clear how this could be accomplished within a generative model.'

3.2 Derek Attridge and rhythmic *experience*

Derek Attridge's approach to the analysis of verse rhythm (Attridge 1982, 1995) represents probably the most refined and subtle model of verse rhythm of those which confine themselves to the rhythmic patterns which are properties of the text, to the tension between verse design and verse instance (see 2.2.2). Attridge combines the aims of the structural and generative approaches. He is concerned, that is to say, with the tension between metrical set and speech rhythm, and the reader's experience of that tension, and at the same time aims to formulate a set of rules which will account for the fact that some conjunctions of metre and speech-rhythm are permissible while others are not. He asks: what is it in our ability to perceive rhythm which stipulates what is permissible?

Attridge sees poetic rhythm - like other kinds of rhythm - as a series of alternating strong and weak pulses: *beats* and *offbeats*. Beats are organised into fundamental rhythmic patterns which underlie all English metrical verse:

> 'Rhythmic pulses in verse (and in music) tend to fall into groups, each of which the mind perceives as a whole, with a beginning and an end; we can call such a group an *underlying rhythm*.' (Attridge 1982:80-1)

The two underlying rhythms of English verse consist respectively of four- and five-beat groups. Attridge's theory, then, encompasses i) the degrees of tension that exist between metre and rhythm when the binary pattern of beats and offbeats is realised by the more variable patterns of stress and accent in the words used by poets; and ii) the ways in which the stressed and unstressed syllables of the language can permissibly

be arranged such that the reader can perceive the pulse of beats and offbeats - what are the limits of metricality?

The most straightforward way in which stressed and unstressed syllables can manifest beats and offbeats is for all beats to be realised by stressed syllables and all offbeats by unstressed syllables. Stressed syllables (by which Attridge means syllables of the kind that Fowler regards as normally accented - see 2.3) are after all produced with higher concentrations of acoustic energy compared with unstressed ones; stressed and unstressed syllables are therefore naturally perceivable as the strong and weak pulses of a rhythmic pattern. Attridge accounts for this essential fact by means of two *base rules*:

Beat rule

A stressed syllable may realise a beat

Offbeat rule

One or two unstressed syllables may realise an offbeat

For example in the iambic line:

Beshrew that heart that makes my heart to groan

(Shakespeare: Sonnet 133)

every beat is realised by a single stressed syllable, and every offbeat is realised by a single unstressed syllable (single offbeats). In:

Answer the question I've put you so oft:
What do you mean by your mountainous fugues?

(Browning: *Master Hugues of Saxe-Gotha*)

every beat is realised by a stressed syllable and every offbeat is realised by two unstressed syllables (double offbeats). Verse in which the offbeats are normally realised by one unstressed syllable (the traditional iambic and trochaic metres) Attridge calls *duple verse* and verse in which the offbeats are normally realised by two unstressed syllables he calls *triple verse.*

But the nature of language is such that a straightforward correspondence between the strong pulses of the underlying rhythm and the prominent syllables of the language cannot be kept up for long; it is rare to find a strict alternation between prominent and non-prominent syllables persisting for any length of time in any speech. Poets in any case value the rhythmic variety which departing from the base rules brings: it allows them to avoid monotony and to display virtuosity in fitting complex rhythmic patterns in the language to a simple underlying pattern without destroying that underlying pattern.

Attridge therefore employs a number of *deviation rules* which specify what deviations from the base rules are possible. The first of these deviations Attridge calls *promotion.* This occurs when an unstressed syllable realises a beat, which it may do when it occurs between two other unstressed syllables, for example *of* in:

Than, issuing forth, the rival <u>of</u> his beams

(Pope: *The rape of the lock*, II, line 3)

Because our mind-set for the iambic metre leads us to expect alternation between beat and offbeat, the middle one of the three successive unstressed syllables here can realise a beat even if it is wholly unprominent since in the context it is the best

available syllable to realise the beat we expect. Promotion can also take place when an unstressed syllable occurs at the beginning or end of a line if the set predicts a beat there, as in the final syllable of this iambic line:

But take our greatness with our violence

(Yeats: *Meditations in time of civil war: Ancestral houses*)

Just as an unstressed syllable can realise a beat, a stressed syllable can realise an offbeat if the metrical set requires an offbeat in context. This phenomenon Attridge calls *demotion*. And just as the context for promotion is that an unstressed syllable occur between two other unstressed syllables, so the context for demotion is that a stressed syllable occur between two other stressed syllables:

The cheek grown thin, the brown hair sprent with grey

(Matthew Arnold: *Thyrsis*)

hair realises an offbeat because it occurs between two other stressed syllables which realise beats, and our expectation of iambic metre is that beats and offbeats alternate. Demotion can also occur where a stressed syllable occurs at the beginning of a line and next to another stressed syllable that realises a beat, if the metre normally has an offbeat at the beginning of the line, as iambic metre does:

Old clothes upon old sticks to scare a bird

(Yeats: *Among school children*)

(According to Attridge (1982:169) demotion, unlike promotion, cannot occur at line-ends.)

The effect of both promotion and demotion is momentarily to speed up or slow down, respectively, the rhythm. This frustrates our expectation that the rhythm will be regular, and so causes some tension between the language used and the underlying rhythm.

Even with the help of the promotion and demotion rules it is difficult to maintain for very long a progression of syllables which alternately realise beat and offbeat. Attridge therefore allows for an offbeat to be implied between two juxtaposed stressed syllables realising beats, as for example between the underlined syllables in:

Thou knowest the walls, altar and hour of night

(Gerard Manley Hopkins: *The wreck of the Deutschland*)

As well as the metrical rules, Attridge includes in his theory the concept of *conditions*. These are constraints on the circumstances in which rules may operate, and are usually imposed in accentual-syllabic verse in order to maintain the correct number of syllables in each line, where the unrestrained operation of some rules would allow syllables to be added indiscriminately. For example using a double offbeat (as the second base rule allows) adds a syllable to the line as compared with using a single offbeat; if, therefore, the second base rule were freely applied to all verse types it would for example allow lines of iambic pentameter to have their syllable counts unacceptably increased to 15, and the metrical set of iambic verse as a form of duple verse destroyed. On the other hand, using an implied offbeat rather than a single offbeat subtracts a syllable from a line.

But if a double offbeat and an implied offbeat are both employed in the same line of duple verse their combined effect on the line's syllable count is zero: the double offbeat adds a syllable and the implied offbeat subtracts one; they cancel out. Hence Attridge imposes a condition on the occurrence of double offbeats and implied offbeats in duple accentual-syllabic verse, namely that an implied offbeat can only occur if a double offbeat also occurs in the same line. In most cases the reverse is also true. These are as it were two halves of one condition, which Attridge calls the *pairing condition*. When the pairing condition is being observed the double offbeat and implied offbeat can occur in either order. For example, with double offbeat first:

Nor need I tallies thy dear love to score

(Shakespeare: Sonnet 122)

And with the implied offbeat first:

In setting up my brass plate as a critic

(W. H. Auden: *Letter to Lord Byron*)

Pairing challenges directly the principle that beat and offbeat alternate, since the pattern of linguistic prominences used - two juxtaposed unstressed syllables and two juxtaposed stressed syllables - runs counter to the rhythmic principle of alternation between strong and weak pulses; the linguistic surface is more than usually far removed from the underlying rhythm. This, then, is the deviation that causes the most tension. But although the linguistic prominences are out of the usual order for the metre, lines such as these - because they contain five stressed syllables - still satisfy

'the reader's demand for five rhythmic peaks' (Attridge 1982:54) which is the essence of all verse having a five-beat underlying rhythm.

There is one other condition in iambic verse besides the pairing condition under which a double offbeat can occur: this is in the context which Attridge calls *initial inversion*, and is familiarly known in traditional metrics as a reversed first foot. What happens in such a case is that the usual beginning of an iambic line, *offbeat, beat* is replaced by the reverse, *beat, offbeat* as in the first two syllables of:

Slattern the tenements on sombre hills,

(W. H. Auden: *Letter to Lord Byron*)

When this happens, because the first unstressed syllable is immediately next to another the first offbeat is inevitably double; but since all that has happened is that the normal ordering of the first two syllables has been reversed the line's syllable count is not affected by this deviation, and the double offbeat does not need an associated implied offbeat; the pairing condition does not apply when the initial inversion condition does.

The more deviation rules that are used in a given piece or passage of verse the more *complex* we can say that its rhythm is; and, depending on the general metrical set for the rhythm of a particular poem or that of the verse of a particular poet, the greater the *tension* that is manifested in it. This, however, depends on our expectations: other things being equal complex verse has a greater tension than simple verse. But if a poet usually writes complex verse, freely using many deviation rules, then we become habituated to the complexity - it is part of our metrical set for that

poet - and see it as a freedom from constraint; whereas it is the sense of constraint imposed by the underlying rhythm despite complexity which in such a case gives rise to a sense of tension. In the verse of poets who are habitually complex it may be an unwonted simplicity which gives rise to tension by its unexpectedness.

Attridge, as we have seen, gives specific rules for the contexts in which the phenomena he identifies occur; these rules state the limits of metricality, not only where the phenomena do occur but where they may: 'A poet writing in regular verse organises the syllables of the language in such a way as to bring them within reach of one of the underlying rhythms that readers are predisposed to perceive' (1982:147). The rules specify how close to the underlying rhythm the arrangement of syllables needs to be, or conversely how far away they can legitimately stray. On the other hand 'An abstract system of rules that predicts what collocations of syllables will be regarded as metrical without relating these patterns to the rhythms that readers perceive has very little meaning' (p. 151); and Attridge argues early in the book that generative metrical theories, with their search for minutely specific rules, have made this mistake.

Attridge says that 'The metrical set of a poem can of course be momentarily challenged by an exceptional line' (p.154). He does not, in other words, believe that metricality has strict boundaries. In discussing examples he will sometimes recognise that a rule has been momentarily relaxed, or that the metrical status of a syllable is not only unclear but is better left so.

Attridge's work will be referred to again in this thesis because its analysis and terminology provides an exceptionally useful shorthand for referring to the various kinds of interaction between metre and speech rhythm. I use it, however, as a foundation for investigating how these are negotiated in recitation, how the varieties of tension Attridge identifies are brought out in speech, or resolved in favour of one pole or the other.

Chapter 4

Rhythmic phrasing

Besides the analysts who have studied the relationship between prose rhythm and metre there is another, less abundant, tradition in the study of verse prosody which has concentrated on what may generally be called *phrasing* that is, the ways in which syntactic and other constituents fit into the matrix of metre and verse form, and counterpoint them. Some work on verse intonation and syntax is in this tradition, (e.g. Mitchell 1970, Mukařovský 1933), as is Fowler's (1966a:84) examination of grammatical units and 'the metrical matrix they are made to occupy' (see 2.3). This chapter looks in particular, however, at the work of John Sinclair on arrest-release and extension structures, and the more recent and exhaustive work of Richard Cureton.

4.1 John Sinclair: arrest-release and extension structures

John Sinclair (Sinclair 1966, 1972) identified two kinds of construction, the *arrest-release* structure and the *extension* structure, which are particularly associated with enjambment in poetry. A line is run on when a line boundary does not coincide with the end of a major syntactic constituent, so that the syntactic constituent is cut in two by the line boundary and carries on into the following line. As Leech (1969:123) observes, 'congruity is treated as the normal, and enjambment as the marked, or abnormal, state of affairs. Enjambment is therefore like metrical variation in setting up a tension between the expected pattern and the pattern actually occurring.' The difference between arrest-release and extension structures is a difference in the way

that that tension is manifested; the difference lies in the answer to the question: when we reach the line boundary have we a construction which appears syntactically complete?

In an arrest-release structure we have not: the line ends at a point where we still clearly need more material to complete the syntactic constituent. The line boundary is therefore said to *arrest* the construction, and the arrival of the completive material in the following line to *release* it. For example in

> In the failing light, the old grandmother
> sits in the kitchen with the child
>
> (Elizabeth Bishop: *Sestina*)

by the end of the first line the clause is clearly not complete: the line ends with a noun phrase, *the old grandmother*, which appears to be the subject of the clause, and we therefore await the predicate; release comes when the predicate duly follows in the next line. It is this sense of expectation - that the line is complete but the syntactic constituent clearly is not - that causes tension in an arrest-release structure: we demand completion; the delay of the line boundary seems out of place.

In an extension structure the construction does appear complete at the line boundary: the material we have when we get to the boundary could stand alone as a complete construction. But more material follows in the next line: we learn that what appeared complete was not. For example in

As he left, the upstairs apartment entered
With some slices of chocolate angel food cake
To make herself acquainted.

(Josephine Miles: *Moving in*)

by the end of the second line we appear to have a complete clause. It is only when we reach the third line that we find that there was more postmodification to come, and that we have a case of enjambment. In an extension structure the tension is caused by the surprise which comes after the line boundary at finding that syntax and the line were not congruent after all.

Complex effects can be produced when two or more such structures, whether of the same or different types, are embedded:

I envy not only their talents
And fertile lack of balance
But the appearance of choice
In their sad and fatal voice.

(Roy Fuller: *War poet*)

At the end of the first line there is an arrest, because *not only* sets up an expectation of a *But...* component to follow. Yet it does not follow immediately: *their talents* is supplemented by a second object of *envy*, *And fertile lack of balance.* The second line therefore surprises us with an extension, and release of the arrest does not take place until the third line.

Sinclair himself observes (1972:260) that arrest-release and extension structures occur throughout language; they are not confined to literary texts, let alone to poetic line boundaries. The significance of this for the present study is that in speech a prosodic boundary constitutes a momentary halt when an arrest can take place, or a

constituent seem complete but be extended following the boundary. Hence when verse is recited an arrest-release or extension structure is perceptible every time a prosodic boundary takes place, whether or not it does so at a line boundary. A reciter may indeed make a prosodic boundary deliberately in order to foreground an arrest-release or extension. The notions of arrest-release and extension will therefore be referred to during the discussion of the prosody of our corpus of recitations, and in particular in the discussion of the relations between pitch patterns in chapters 16-18.

4.2 Richard Cureton

4.2.1 Cureton's model of verse rhythm

Richard Cureton (e.g. Cureton 1985, 1986, 1992, 1993, 1994), has devised a theory of poetic rhythm which draws on the work in music theory of Cooper and Meyer (1960) and Lerdahl and Jackendoff (1983). Cureton claims to have advanced from all previous work on verse rhythm, and to have created a thoroughgoing system for its analysis: 'A rigorously hierarchical theory of rhythm' (Cureton 1994:119). His purpose is to show that we perceive rhythm at all levels of structure in verse: not merely in stress and accent patterns but in intonation, syntax and rhetorical schemes. In his system there are three components of rhythmic organisation, *metre, grouping* and *prolongation*. *Metre* is the invariant rhythmical pulse underlying the verse. *Grouping* is a more variable segmentation of the text, which cuts across metre; this is where stress and accent patterns, intonation, syntax and rhetorical and semantic organisation are incorporated into rhythm. *Prolongation* focuses on similar structures to grouping, but from the point of view of the ways we anticipate as we read, of how

our expectations are satisfied or frustrated, and of our sense that at any time a structure is being further elaborated - as it were a tensing movement - or is moving towards completion - a relaxing movement.

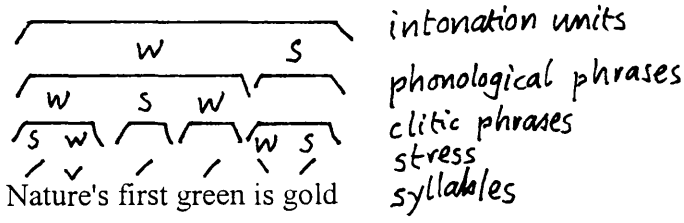
Much of this was examined before Cureton, for example grouping was looked at by those scholars cited above who treated syntax and intonation, while Sinclair's work essentially concerned prolongation, as did the work - acknowledgedly drawn on by Cureton - of Smith (1968) on poetic closure. Yet Attridge (1995:xiii) could describe rhythmic phrasing as a 'little-explored realm' and 'this young branch of prosodic study' and Kuper (1996:1) could say that the relationship between metre and phrasing was 'relatively unexplored'. That claims like this are made implies that Cureton's work is a substantial advance. One probable reason for its apparent novelty is the longstanding predominance in the study of verse rhythm of generative metrics, with its concentration on the limits of metricality; older work which looked at other aspects of the subject is likely to have been somewhat eclipsed by this. But another reason for the impression Cureton has made is undoubtedly the extent of his analysis: his exhaustive organisation of rhythmic structures into hierarchies, his use of a unified notation and his examination of levels of organisation such as rhetorical structure which have not previously been thought of as rhythmic - besides this, earlier examinations of the role of phrasing in verse structure seem tentative and partial.

The basic idea of the rhythmic hierarchy is that the verse text is partitioned into rhythmic phrases of various sizes and descriptions, each type of constituent being assigned to a level in the hierarchy. Constituents at a given level are composed of one or more constituents at the next level down. At the highest level the entire text

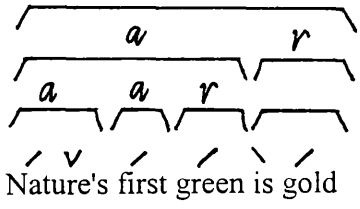
constitutes a group. Apart from its hierarchical structure the other main aspect of grouping is what Cureton calls *relative prominence*. In any group which has two or more constituents, one (and only one) of those constituents will by definition be perceived as strong, as compared with the others. For example an accented syllable is strong compared to an unaccented one; the nucleus of a tone group is strong compared with the rest of the tone group (see 8.1); a clause containing new information will be stronger - richer in information - than one containing given information. This notion allows Cureton to claim that the diverse aspects of linguistic structure he includes in his model of grouping do, as it were, the same kind of thing in creating in readers' minds effects of alternating strong and weak constituents at the various levels of organisation, and Cureton labels every constituent of the grouping hierarchy as either strong or weak. For Cureton rhythm as such is not linguistic: the linguistic structures of a text give rise in the reader to cognitive rhythmic ones.

Prolongation uses the same hierarchy and constituents as does grouping, but has its own system of annotation. In the prolongational hierarchy there are three types of constituent: *anticipations, arrivals* and *extensions*. An anticipation is a constituent which sets up an expectation of some constituent to follow; for example an initial adverbial clause leads us to expect that a matrix clause (defined by Quirk, et al. (1985:991) as 'the superordinate clause minus its subordinate clause') will follow. An arrival is a constituent that completes a larger constituent already begun; for example in a Petrarchan sonnet the sestet completes the poem which the octave begins. An extension is a constituent which moves away from an arrival and further elaborates it, for example a relative clause following a head noun.

It is, according to Cureton, the fact that it possesses grouping and prolongation that accounts for the fact that free verse has a rhythm even though it has no metre. And it is grouping and prolongation which in metrical verse counterpoint the invariant pulse of the metre. The stress and accentual patterns of speech are incorporated into grouping at the lowest levels of the hierarchy; but there is much more than this to the counterpointing of metre. Further up the hierarchy the constituents of grouping structure are intonation groups; further up still they are syntactic constituents; further up again they are 'chunks' of information. All these types of constituent together provide an organisation of the text; they all counterpoint the metre, setting up in the reader's mind systems of alternation and recurrence different from those of the metre, and varying from it. For example in the first line of Robert Frost's *Nothing gold can stay* Cureton postulates a grouping structure at the lowest levels of the hierarchy thus:



(/ \ and v indicate three levels of stress in descending order; s = strong component, w = weak component) and a prolongational structure as follows:



(a = anticipation, r = arrival).

Both these structures exist alongside the metre and give rise to tension within and between themselves and with the metre (adapted from Cureton 1993).

4.2.2 Problems with Cureton's analysis

In some respects this model is an advance on previous work. It recognises that the rhythmic organisation of verse at levels other than the metrical is a more complex and less vaguely defined thing than previous investigators have recognised: up to now only 'prose rhythm' has been investigated in detail, while work on syntax and intonation has been suggestive but unfocused. Nonetheless Cureton's work is heavily flawed.

First, as Attridge (1996a) points out, it is not self-evident that the different aspects of linguistic and rhetorical structure which are linked together in Cureton's hierarchies ought to be so. It is not, for example, obvious that the 'strength' of an accented syllable is the same as the 'strength' of a relatively rich delivery of information. As to the latter, Attridge wonders whether Cureton is really dealing with rhythm at all, suspecting that he has in fact identified a new study of 'phrasal relations' or 'informational structuring' 'in spite of his wish to be read within the tradition of prosody' (Attridge 1996:21-2). Cureton's reply to Attridge (Cureton 1996:33) is that rhythm is a cognitive *response* to the language, one which is the same at all linguistic levels. This may be correct but is as far as I can see untested.

Another problem with Cureton's use of rigid hierarchies is that it obscures the foundation of the notion of informational richness: giving a constituent a simple label of strong or weak does not explain how this judgement was arrived at; a study of 'informational structuring', separate from prosody as such, might. A consequence of

this flaw is that, although readers of his verse analyses might disagree with the detail of Cureton's segmentation of texts into grouping and prolongational constituents, they might well have a problem in constructing their own; because it is not clear in detail how Cureton does this it is not clear in principle how such hierarchies should be worked out.

But at the lower levels of the hierarchy there is a much more serious flaw. At these levels Cureton's groupings do purport to be prosodic. They are based on the groupings of the *prosodic hierarchy* of metrical phonology (e.g. Nespor and Vogel 1986, Selkirk 1984). The main idea of this is that there is a hierarchy of prosodic domains or groups: rules for prosodic phenomena (for example phrase accent or vowel lengthening) apply to syntactic constituents of a given size; this is thought to demonstrate the existence of prosodic domains co-extensive with the syntactic ones but existing as entities in their own right. This is in itself a dubious proposition: why should the application of a rule call into existence another entity in this way? But the metrical phonologists also believe that speech can be exhaustively partitioned into these prosodic domains even where the rules which are supposed to motivate their existence do not apply. Their analysis is cluttered with unnecessary entities.

Cureton has adopted the metrical phonologists' prosodic hierarchy for the lower levels of his grouping hierarchy, using some of the same labels (e.g. *clitic phrase, phonological phrase*). This implies that at this level in his grouping hierarchy Cureton is dealing with *prosodic* domains, the groupings of speech. Yet Cureton's postulation of grouping structure at these levels is not based on speech. The lowest level of grouping in Cureton's hierarchy is the clitic phrase. This consists of one

normally accentable syllable together with those normally unaccented syllables which immediately precede or follow it and are associated by belonging to the same word or by being proclitic or enclitic to it. The clitic phrase, then, is what Knowles (1987:103) refers to as the *accent group*; its structure can be inferred from a printed text (see 7.2). In speech it is accent groups which combine to form tone groups; each tone group contains one or more accent groups (Knowles 1987:122). But Cureton assumes for verse (as do the metrical phonologists for speech) the existence of the *phonological phrase*, a prosodic domain intermediate in size between the clitic phrase and the tone group, but one for which there seems no motivation. The motivation for assuming its existence must either be based on the text - say on syntax or rhetorical structure - or on speech. In the former case we surely do not need the phonological phrase as well as the constituents of syntax or blocks of information themselves: to have both is wasteful. In the latter case it is not possible to argue for the existence of a prosodic domain without some actual speech being examined, which Cureton does not do. The phonological phrase is in short an unnecessary layer of the hierarchy.

The tone group is a well-recognised prosodic component of speech, although it is known by various names (see Cruttenden 1986:35). Being a component of speech it is defined in auditory terms and can only be investigated by means of analysing actual speech; but Cureton does not use this auditory base - he segments poetic texts into assumed tone groups on the evidence of the printed text alone, an operation which it is not logically possible to carry out, and whose results are therefore bound to be meaningless. This sometimes leads him to postulate tone group boundaries and the placement of nuclear accent in unlikely places, for example he assumes that the following, from *The Windhover*, is a single tone group:

Of the rolling level underneath him steady air

(Cureton 1992:353)

and asserts baldly of the same poem that 'The tone units in the centre of the text are very short' without the authority of a spoken performance of the poem that would allow him to make such a statement; throughout, whether his assumptions are plausible or not, he is proceeding by guesswork.

Lerdahl and Jackendoff (1983), from whom Cureton derives many of his ideas, analyse melodic motifs in music - essentially tone-group equivalents - from printed texts, but this is legitimate. A musical score shows these motifs; musical notation is a means of recording auditory patterns in print. For Cureton to write with authority on intonation patterns in verse he would have to have listened to some. It is the advantage of an empirical approach such as the present one that it can allow authoritative statements to be made about the prosody of verse at all levels, because it employs recitations in the service of investigating this. Moreover, analysing recitations allows us to investigate not only the extent of prosodic domains but the shape of pitch patterns - the spoken counterpart of melody in music. An empirical investigation of performance can use more directly the insights of music theory.

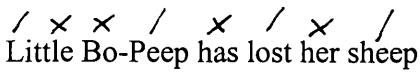
Such an investigation also has another advantage. Attridge (1996) finds Cureton somewhat rigid in his use of strictly organised hierarchies, intolerant of fuzziness and ambiguity. Now Cureton's model includes a set of *preference rules* for grouping structure. Preference rules are intended to account for the forms that grouping structure takes, but are not obligatory. They account for typical grouping

structures and, by suggesting the limits of these, help us to see where, how and to what extent less typical structures go beyond the limits. For example one grouping preference rule is 'Prefer a group whose span coincides with a metrical projection' (1992:265). This captures the way that we feel it normal for syntactic constituents to be coterminous with lines of verse. Enjambment, however, is allowed, and happens often enough; the rule captures the fact that, however frequent it is, we feel it to be the marked case.

Now since preference rules are allowed to be broken they imply a multitude of possible textual cues to grouping structure which may operate in practice in varying proportions in each part of a text: the rules are observed to varying degrees, and alternative grouping structures may be possible. The use of preference rules is an acknowledgement of fuzziness. But in practice, Attridge claims, Cureton's attitude to grouping segmentation 'borders on the mechanical' (Attridge 1996:26). While Cureton reasonably replies to this that his rules and hierarchies model our primary cognitive representation of grouping structure, and that blurred or ambiguous structure can only be understood as blurred or ambiguous by reference to this model, he gives little attention to ambiguity. In an empirical investigation of prosodic domains in verse recitation we can use multiple readings of the same poem to investigate precisely where readers disagree about groupings, and show where the text gives rise to ambiguities of prosodic structure in readers' minds.

Cureton is over-rigid in his treatment of metre, which he regards as an implacable duple or triple pulse regardless of the linguistic surface. It is possible for verse to mix duple and triple metres, and as Attridge (1982:197) has observed, 'There

is no point at which the inclusion of one more double offbeat will switch the rhythm from duple to triple... there is a spectrum of rhythmic types between the two extremes'. Yet Cureton believes that *Little Bo-Peep*, which mixes single and double offbeats from its very first line:



has to be read as either purely triple or purely duple metre. As Attridge observes Attridge (1996b:53), if Cureton allowed mixed metres this would avoid the waste of having to provide - as he does - entire alternative scansions.

Cureton also postulates a hierarchy of 'strength' in metrical beating, based apparently on the length of the metrical projection that a beat initiates: a beat at the beginning of a line, for example, is marked as stronger than the other beats in that line, and those at the beginnings of couplets or quatrains or stanzas as stronger still (this hierarchy is plotted by means of a metrical grid). This is not a traditional component of metrical analysis - this additional 'strength' does not seem to be intuitively part of the metrical pulse we perceive - but Cureton offers no evidence for it. He may have borrowed too much from Lerdahl and Jackendoff, who postulate a metrical hierarchy for music. But in music it is intuitively present. For example the first beat in any bar is acknowledged to be the strong beat, while in compound time the time signature may indicate one level of beating (for example 6/8 indicates a quaver beat) but a conductor beat another (6/8 is, except in very slow tempos, normally beaten as a duple, dotted crotchet pulse). In any case Lerdahl and Jackendoff recognise that even in music high-level beating is 'a relatively local

phenomenon' (1983:27) that is, distinctions of beating strength cannot be made above a few levels, perhaps three or four, organised over stretches of a couple of bars at a time. Yet Cureton postulates seven levels of beating operating throughout a sonnet (see Cureton 1994).

The present work is in great part, like Cureton's, an investigation of prosodic grouping. This is a fertile area for investigation: most analysts of verse rhythm have not gone beyond word-stress patterns in looking for the prosodic features that counterpoint metre. But it is a task that demands empirical investigation of spoken verse - this I provide.

Chapter 5

Investigative method,

and presuppositions of the analysis

I now turn to the principles on which the experimental work reported in subsequent sections was carried out. In this chapter I first discuss the use of a relational database in this work. I then turn to three matters which have informed and shaped the investigation: first, the influence of prototype theory on my approach to categorisation; second, my belief that, in adopting a new approach to the classification of prosodic groupings, I am not so much producing a 'truer' model as a set of working assumptions better suited to the prosody of verse recitation than previous ones have been; and third, that this, being the initial use of a new approach, is more of a qualitative than a quantitative investigation, done to establish the patterns that exist before more sophisticated work on their occurrence can be done.

5.1 The use of a relational database in the investigation of verse prosody

The form this research has taken has been heavily influenced by the use of a relational database to store and investigate the data. Here I outline the nature of a relational database, and the advantages it gives over previous methods of investigation. More information on the theory of data structure, data analysis and database design can be found in handbooks such as Bull (1990) and Howe (1989). The detailed construction of the database used is shown in the appendix.

5.1.1 The relational database

A computer database is simply a means of storing data and retrieving it in a convenient form. The data are stored in *tables*; each entity to be stored is given a *record*, and each record is organised into a number of *fields*, each field containing one attribute of the entity. For example in a library catalogue a record is given for each book, periodical etc.; each record has fields for author, title, publisher, publication date, classification mark and so on (Rowley 1987:84). In a *relational database* there are a number of different tables, each one storing a particular kind of data. For example in the database used in the present work one table stores the poetic texts used, and any prosodic attributes, such as lexical stress patterns and metre, which are inherent in the text itself; another table stores accentual patterns and pitch movements made by each reader in recitation; another stores the prosodic discontinuity features, such as pauses and pitch resets, made by each reader; another stores the pitch patterns into which the readers' individual pitch movements form themselves, and so on. *Joins* can be made between tables, so that data which are of different kinds, and which consequently are stored in different tables, but which are nonetheless related in some way, can be linked, and if necessary retrieved from the system together. It is the use of joins - which define relations between the tables - which gives rise to the term *relational database*. For example a syllable (a feature of the text of a poem) is recited by a reader with a given pitch movement, and on or immediately after that syllable there may be some discontinuity features. Hence the separate tables storing these three kinds of data must be joined if - as is likely - we want to be able to answer such questions as what kind of pitch movement or combination of discontinuity features a

reader uses on a given syllable, or whether a given pitch movement represents the end of a contour and is followed by the reset of pitch at the beginning of a new contour. One common method of making the necessary joins is to have a common serial number for a given syllable and for each pitch movement and bundle of discontinuity features associated with it, but any common attribute of different varieties of data can be used if it constitutes a unique link.

Where joins are made there are several kinds of relationship that a join can represent. A *one-to one* (1:1) relationship exists when single records in one table are associated with single records in another. For example each syllable in the *Text* table is given a record, as is each co-occurring bundle of discontinuity features in the *Discontinuities* table; and since each bundle of discontinuity features is associated with a single syllable the relationship between these two tables is a 1:1 relationship. A *one-to-many* (1:many) relationship exists when each record in one table may be associated with more than one record in another. For example although an individual syllable in the *Text* table is often associated with only one pitch movement in the *Pitch* table, it may be associated with more than one when the syllable carries a glide, so that as well as there being a movement *to* the pitch level the syllable is pronounced with there is also a movement *on* the syllable itself. In such cases there is a 1:many relationship between the syllable and its pitch movements. A *many-to-one* (many:1) relationship is the reverse of this: more than record in one table is associated with a single record in another. For example concatenations of pitch movements, each of which has its own record in the *Pitch* table, together form entire pitch contours each of which is a single *gestalt*. So the individual records of several pitch movements will be associated with one record for a single contour in the *Tunes* table, where records of

pitch patterns are stored. In principle *many-to-many* (many:many) relationships may also exist, though there are none in the present database.

Queries are used to retrieve data. A query can specify the kind of data that is to be retrieved and the form in which is should be presented. It can specify for example which tables, and which fields in those tables, are to be searched, and what kinds of records are to be searched for, for example records with a particular attribute in a given field (say syllables with a rising or falling pitch movement or those having a pause but no pitch reset) or records with a specified serial number or range of serial numbers (so that the records belonging to a particular line of verse can be retrieved). The retrieved data can then be presented with related fields side by side for comparison. They can also be presented with the records sorted in a particular order: this allows us, for example, to sort records by reader so that each person's recitation of a given line is shown in turn, or by syllable so that features associated with one syllable can be rapidly compared between readers.

The attributes stored in fields can be of a number of different *data types*; each field is created to store information of a given data type. The present database uses the following data types available in Microsoft Access, the relational database software used:

Text stores words and symbols, also numbers if they are to be treated simply as strings of characters. This is the data type used to store the texts of the poems, and attributes such as pitch movements and patterns, which are annotated by symbols.

Number stores numbers not only as characters but as numerical values which can be used in calculations.

Yes/no is used for data which is clearly binary; that is, for attributes which have only the values true and false. In our data this means in practice a prosodic feature which, at any rate for our purposes, is either possessed or is not; it cannot be possessed in one form rather than another. Fields of this data type are sometimes referred to as *Boolean fields* or *logical variables*.

Counter has the strictly limited purpose of automatically assigning serial numbers to records. It is necessary if no other attribute or combination of attributes uniquely identifies each record in a table.

5.1.2 The advantages of the relational database in the investigation of prosody

The advantages of the relational database over conventional paper-and-pencil transcription for the analysis of prosodic data are many, but there are three main ones, from which others flow. The first main advantage is that which theory of prosodic structure we use is no longer dependent on the way we store data: our theory of prosodic structure is dependent only on what we think the facts of that structure are.

For example in the traditional analysis of intonation as a series of tone groups, a single symbol is used to indicate both the accentuation of a syllable and the shape of the pitch movement associated with it (see 14.1); and the abstraction 'tone group

boundary' could indicate any of several different combinations of discontinuity features which could cue perception of a tone group boundary (see 8.2.1). This means of annotation was, however, easy to read: someone familiar with tone group theory could easily follow a prosodic transcription; it was not cluttered with symbols. This mattered when the annotation had to be made on paper, since on paper the data is inevitably both stored and presented in the same format. For legibility's sake (which is a consideration of presentation but not of storage) this format had to be linear, a format in which multiple levels of annotation are next to impossible to read simultaneously. The transcription had to be stored and presented as if it was a passage from a novel. With a relational database storage and presentation are separate: the data can be stored in whatever form seems logical for the purpose. For the purpose of storage legibility and neatness do not matter; they are matters of presentation, and in a relational database the format of presentation is specified only at the moment of retrieval, when *any* desired selection from the stored data can be made. It is selection - the abstraction of a few levels of annotation from the store - and judicious formatting which ensure legibility. As Knowles (1995:211) observes, the use of a relational database

> 'enforces a more rigorous definition of the data, and separates the problems of data organization and data presentation... it is necessary to identify precisely the kind of data to be associated with any record, and which record any piece of data belongs to. This is a matter of data organization. Once that data is properly organized, it is a trivial matter to present it in any desired format.'

Suppose, to take an analogy, that we have an LP record of Brahms's first symphony and the *Academic Festival Overture*, in that order. That is the order in which the data is stored, but it also constrains the way we can retrieve it. We can listen to the two pieces in the order in which they are stored; that is not a problem.

But to do anything else presents difficulties. If we want to listen only to the symphony (which is probably the piece we bought the record for) we must rapidly remove the needle at the end of the symphony in the few seconds available to us before the overture starts. And if we want to listen to the overture and then the symphony (which would be the more usual order of presenting these two items on a concert programme) we must lower the needle in the middle of a side (difficult to do accurately) then after ten minutes or so change the record over and play it from the beginning of the first side (and still have the inconvenience of stopping the overture from playing a second time). Now suppose we have a CD of the same two pieces in the same order. A CD player can be programmed: we can play any or all of the tracks in any order, without interruption; none of the difficulties above arises. This is because data storage and data retrieval have now been separated.

Conversely, the items in a library need to be catalogued by author, title and subject for retrieval purposes, but in card catalogues the needs of retrieval have constrained the storage format, so that there have had to be three separate catalogues of the same stock, or at best, in the so-called 'dictionary catalogue', a single alphabetical sequence of author, title and subject entries, which still necessitates each single item being stored several times. In a computerised catalogue each item need be stored only once. It, or items in its general area, can be searched for in the author, title or subject fields, or a user-designed combination of those; the entry has no need of an author, title or subject heading, nor need items be stored in a given order.

Similarly in storing the prosodic features of recited verse or any other speech such features as accentuation, individual pitch movements, whole pitch patterns and

separate discontinuity features can be stored separately in any convenient format *for storage*, and only brought together and ordered when they need to be retrieved together in a query. We therefore no longer need to assume, as the traditional annotation of tone groups effectively does by classifying pitch contours according to shape of nuclear accent, that the shape of a pitch contour is a property of an accented syllable, or that there is a single entity called a tone group boundary which either exists or does not; the multifaceted nature of these things can be acknowledged.

As well as this we can easily try out different theories of prosodic structure to find out which one best accounts for our raw data. With pencil-and-paper transcription, to compare theories by using more than one side by side would have meant carrying out two (or more) separate full transcriptions, the sheer labour of which would daunt most investigators. With a relational database we store our narrowly transcribed data only once, and can add any separately stored broad annotation we like for more abstract interpretative models of the data: additional forms of broad annotation can be added rapidly. Queries can then be used to map the various broad annotations onto the raw data to see which fits best. Bond (1994:36), in her study of Mongolian syntax, observes that

> 'In addition to testing and reformulating hypotheses about Mongolian language structure for future investigation, the process of establishing the database is viewed as an opportunity to explore and measure the strengths and weaknesses of different methods of preparing and analysing data.'

This would scarcely be possible using pencil-and-paper transcription. Relational databases, then, can be seen as 'machines for producing justified interpretations' (Stutt 1990:77).

Another advantage of the database has the same foundation. Different *levels* at which the same data is annotated can be more easily integrated when this is necessary. A narrow prosodic transcription is analytic, recording the minutiae of prosodic detail, every separate pitch movement and syllable. A broad transcription is synthetic, abstracting patterns from the totality of features, patterns for example of whole contours. In the past we have tended to use one kind of annotation or the other. For example prosodists have differed in their transcription practice on whether to annotate a set of prosodic features which combine to form pitch contours, or whether to annotate whole 'tunes' - complete melodic shapes of entire contours (see chapter 14). With a database we can do both and map one onto the other when we need to.

The second main advantage of the database is the sheer speed with which it retrieves data. Abercrombie (1965) identified two kinds of what he called *pseudo-procedures* in research in linguistics. Pseudo-procedures are experimental procedures which linguists claim to have carried out and to have drawn conclusions from but which would in fact be impossible to carry out in the precise way claimed. One kind is procedures which are simply impossible in principle to carry out. The other kind is procedures which could in theory be carried out but which in fact would require such an impossibly large amount of labour that no one ever would carry them out. The spread of computer-based analysis since Abercrombie wrote has meant that some pseudo-procedures of the second type can no longer be regarded as such: they would no longer take an impossibly long time to carry out because the computer can carry them out rapidly, sometimes in seconds.

Another advantage flows from this one. As Bond observes (1994:232) 'The strength of the database as a research tool is the opportunity it provides to *observe patterns* in a large quantity of data.' The speed with which data can be retrieved from the database, and the way the results of queries can be rapidly scrolled through again and again, means that trends and patterns in the data can make a sharp impression, without which we might not see them at all: laboriously sifting through many paper transcriptions is not conducive to appreciating a pattern made by the whole of a large body of data. Alternative interpretative abstractions can be mapped onto the same basic data, the different interpretations being rapidly tried over to find the best fit; as each successive possibility is tried previous ones can still be held in the mind because the speed of operation means that the memory of them has not faded.

The third main advantage of the relational database for the study of prosody, and of verse prosody in particular, is that the separate annotation of different levels of analysis ensures that properties of the text and of recitation are clearly distinguished. There has in the past been much confusion of these two levels, which we can now clear. We have seen, for example, that Wellek and Warren decried the investigations of poetic rhythm by experimental phoneticians on the ground that they ignored the syllabic structure (2.1), when the phoneticians were simply concentrating on the properties of performance; that Fowler believed that investigating performance is unnecessary because it tells us nothing about verse structure that we could not have discovered from the text (2.3); and that Cureton believes that tone groups - a property only of performance - can be inferred from the text (4.2). More generally, it appears that many investigators have simply been unwilling to move beyond the text. Using a database we can look on the poetic text as having a defined set of properties such as

syllables, metre, basic stress patterns and syntax which provide a *foundation* for recitation. The prosodic properties of recitation, such as accentual and pitch patterns, are separate - and separately annotated. They can conform to or depart from the foundation provided by the text; we can look at both sets of properties without the danger of confusing them.

5.2 Presuppositions of the analysis

5.2.1 Prototypes

My analytical approach owes much to prototype theory. As set out by Taylor (1989) prototype theory is an approach to categorisation which contrasts with the approach of the classical (Aristotelian) approach. Taylor (pp. 23-4) summarises the classical approach to categorisation as follows:

> 'To say that an *X* is a *Y*, is to assign *X* to the category *Y*. We do this by checking off the properties of *X* against the features which define the essence of the category *Y*; our knowledge of this set of features characterizes our knowledge of the meaning of the word *Y*... if any of the defining features is no exhibited by the entity, then the entity is not a member of the category... the basic assumption of the classical approach, then, is as follows:
>
> (1) Categories are defined in terms of a conjunction of necessary and sufficient features'

Furthermore, there is a rigidity about categories and their defining features. The other essential principles of the classical approach are:

> '(2) Features are binary
>
> 'Features are a matter of all or nothing. A feature is either involved in the definition of a category, or it is not; an entity either possesses this feature, or it

does not. In any given instance a feature is either present or absent, and it can take on only one of two values, either [+] or [-]. (3) and (4) follow from (2):

'(3) Categories have clear boundaries

'A category, once established, divides the universe into two sets of entities - those that are members of the category, and those that are not. There are no ambiguous cases, no entities which "in a way" or "to some extent" belong to the category, but which in another way do not.

'(4) All members of a category have equal status

'Any entity which exhibits all the defining features of a category is a full member of that category; any entity which does not exhibit all the defining features is not a member. There are no degrees of membership in a category, i.e. there are no entities which are better members of the category than others.'

Taylor remarks that there is now 'an increasing body of empirical evidence which seriously challenged the foundations of the classical, Aristotelian theory of categorization' (p. 38); he reviews some of this, including Labov's work on the categorisation of household receptacles. Labov demonstrated, by asking informants to name depicted objects, that there are no clear boundaries between the categories of different types of receptacles, no necessary and sufficient attributes that unambiguously define an object as, say a cup rather than a bowl. Rather, there are typical attributes which are most commonly associated with typical examples of a category; but not all objects having those features belong to the category, and some objects which do belong to the category do not have the typical features. Taylor comments:

'What is it, then, that makes a cup a cup, and not a bowl or a vase? What, in Aristotelian terms, is the "essence of cup"? this question is tantalizingly difficult to answer, at least in Aristotelian terms. At the same time, we have no difficulty visualizing, or recognizing, a typical cup. Even though CUP might merge with categories like BOWL and VASE, there are certain receptacles that are unanimously and uncontroversially described as cups... household receptacles appear to be categorized around good, clear exemplars of CUP, BOWL, etc. these "prototypes" serve as reference points for the categorization of not-so-clear instances.' (p. 42)

The purpose of Taylor's book is to apply prototype theory to the categories used in linguistic analysis: structural and generative linguists have tended to use the classical theory in their work so that, for example, a sentence is categorically either grammatical or ungrammatical, and a consonant is either voiced or voiceless. Taylor shows that in fact the categories of linguistics are better regarded as prototype categories. For example he refers (p. 230-1) to work by Jaeger and Ohala demonstrating that the distinctive features of phonology are not all-or-none; sounds may possess more or less of a feature. Regarding the feature [± VOICE], for instance, for Jaeger and Ohala's informants

> 'Of the sounds tested, /r,m,n/ were the best examples of voicing, while /p,t,k/ were the best examples of voicelessness. the so-called voiced stops /b,d,g/ turned out to occupy an intermediate position between voicing and voicelessness... Features are not so much binary classificatory devices, but merely embody dimensions of perceived similarity between different speech sounds' (Taylor 1989:231).

A model of this kind fits well with the problems of classification in prosody, and in particular the problems of classifying the prosodic data in the present study. As we shall see, the different pitch patterns are not categorically distinct but bear greater or lesser resemblances to each other, and those resemblances are found in some of the patterns' features but not others (15.2); moreover, within the category of one type of pitch pattern some examples will be prototypical and some more marginal members of the category (15.3). Again, the boundaries between prosodic domains are not clearly defined - the category of 'tone group boundary' is not at all a clear one - but depends on an abstract judgment of clusters of features which may or may not give a clear indication of discontinuity. The differences between varieties of the same essential physical phenomenon are likewise not absolute: pitch obtrusion, for example, may

signal a pitch accent or it may be of sufficient degree to signal only a prosodic prominence that falls some way short of accent; but there is no clear boundary between these possibilities.

A model informed by prototype theory is therefore a better foundation for the analysis of prosody in verse recitation than a rigid hierarchy of perfectly defined and delimited prosodic domains - the 'rigorously hierarchical theory of rhythm' advocated by Cureton (1994:119). Taylor compares grammar and prosody in the following terms:

> 'But whereas it is a relatively straightforward matter to identify the formal elements of a tense system, to attempt to state the formal elements of intonation presents us with a different order of difficulty. Any sentence can be spoken with a virtually limitless range of pitch levels and pitch sequences. The first step in any analysis must be to digitalize the phonetic data, i.e. to abstract from the limitless possibilities a small, finite set of meaning-bearing elements. (1989:158-9)

The existence of a 'virtually limitless range of pitch levels and pitch sequences' means that there are bound to be ambiguities in prosodic categorisation; and, in the analysis of verse recitation, some relationships between prosodic features and the printed text will remain unclear, perhaps insolubly so.

5.2.2 Fictions

The system of classifying prosodic categories used in this study replaces, but is not intended generally to supersede, the established system of tone groups of the British tradition, classified by the pitch pattern of their nuclear accent. Most phonological categorisations employ *fictions* in the sense defined by Vaihinger (1935) (as indeed

Abercrombie 1991:30 has pointed out in relation to the segmentation of the stream of speech into individual sounds). Our system is what Vaihinger calls a system of *artificial classification*: it

> 'provisionally substitutes for the correct [but as yet unknown] constructs others which do not directly correspond to reality. It then operates with those fictional classes as if they were real ones... artificial and fictive classification always selects from a whole group of characters some one that is particularly prominent, and bases its division upon this without paying any attention to the way in which these characters are naturally determined by one another. These provisional classificatory aids... serve the practical purpose of permitting objects to be arranged and brought under definite rubrics'. (p. 17)

Vaihinger also observes that fictions 'at some time in the future are to make room for better and more natural systems' (p. 19) and that 'the object of the world of ideas as a whole is not the portrayal of reality - this would be an utterly impossible task - but rather to provide us with an instrument for finding our way about more easily in this world' (p. 15).

Fictions in this sense may lead to useful conclusions and correct results even though they themselves are technically false. If we discard the tone group in favour of separate annotations for rhythmic, accentual and pitch patterns this does not mean that we have 'refuted' the tone group, but that for our purposes we need a better guide to some observable phenomena that are not illuminated or acknowledged by the tone group as traditionally constituted. According to Vaihinger 'The principle of the rules of hypothetical method is the probability of the conceptual constructs, that of fictional method is their *expediency*' (p. 89). The scheme of prosodic annotation and classification I use in this study (see chapter 15) is one I believe to be expedient for the purpose of exploring the prosodic characteristics of verse recitation; the traditional tone group system is not - yet it might retain its utility for other analytical purposes.

My use, then, of a newly devised set of prosodic annotations is a matter of convenience. The new system annotates the recitations according to qualities and phenomena which are audible and which appear to be characteristic of verse recitation, but which the annotation system for traditional tone group analysis does not capture. Conversely it is possible that our system may be less useful for the analysis of conversation. Our system is simply a convenient system of labelling; it does not attempt to go as far as it might have done in internal coherence and logical perfection: In chapter 20 I attempt to point the way to a further improved set of fictions.

5.2.3 Qualitative analysis

The analysis of the data is mainly qualitative: it examines the totality of accentual and pitch patterns to give a preliminary account of what prosodic patterns occur in recited verse. This account provides a new analytical model of verse prosody for use in further investigations. McEnery and Wilson (1996:62) observe that 'in qualitative research the data are use only as a basis for identifying and describing aspects of usage in the language and to provide "real-life" examples of particular phenomena.' This is contrasted with quantitative research in which statistics are established for the frequency of occurrence of particular phenomena.

> 'In qualitative analyses, rare phenomena receive... the same attention as more frequent phenomena, and, because the aim is complete detailed description rather than quantification, delicate variation of the data is foregrounded: qualitative analysis enables very fine distinctions o be drawn since it is not necessary to shoehorn the data into a finite number of classifications.'

There is some statistical tabulation of the frequency of the various accentual and pitch patterns, but the essence of the analysis is the minute description of the nature and use of each pattern. For example, the vast majority of pitch patterns conform to a single basic shape; but the minority that does not is given an equally detailed description. The present qualitative work may well prepare the ground for later quantitative research: once we know in some detail what are the patterns we are looking for then we can concentrate on counting and classifying them in larger corpora. The other advantage of a qualitative analysis for the present work is that qualitative analysis lends itself better than does quantitative analysis to the use of fuzzy categories, as McEnery and Wilson point out (p. 63), because the data do not have to be rigidly categorised for computational purposes. As was observed in 5.2.2 the use of fuzzy categories is important to the model of prosodic structure expounded in the present work.

Chapter 6

The investigation

In this chapter I introduce the poems used in the investigation, giving a stylistic and metrical analysis of each, to which the findings on prosody in subsequent sections can be related. I give brief background information on the body of readers who recited each poem. Finally I refer to the structure of music to justify the focus of the research, showing a close fit between the rhythmic and melodic structure of music and the accentual and pitch patterns of speech, the aspects of prosody investigated in the rest of the thesis.

6.1 The poems

The data used for this investigation consists of multiple recitations of two short poems, Keats's sonnet *Read me a lesson, Muse, and speak it loud* and Louis MacNeice's *Perspectives*. These poems were chosen partly because of their syntactic structure: both poems employ clear patterns of co-ordination and subordination which they use to create syntactic and semantic parallelisms throughout the text, and both vary within themselves the degree of congruence between syntactic structures, and the metre and lineation. They were also chosen for the metrical contrast between them. The Keats, like almost all sonnets, is written in iambic pentameter and has a definite rhyme scheme; the MacNeice, though having a metre of sorts (see 6.1.2.1 below), is not metrical in the prototypical sense of having a regular pulse running through it, and is unrhymed.

All this takes place in clear ways: neither poem, for all the elaboration of their patterning, is especially complex or profound. The poems were chosen precisely because of this clarity: if the textual patterns are straightforward it is likely that the process of mapping prosodic patterns onto textual patterns will also be. If this is so we are not distracted by complexities of prosody-to-text associations when analysing the complexity of the prosodic patterns as such. If we can establish this latter analysis, and an account of the prosody-to-text associations in simple texts, we then have a set of givens armed with which we can investigate the prosodic patterns of more complex texts. Widdowson (1975:85), discussing the use of literary texts in language teaching, writes:

> 'Notice that if one looks at literary studies in this light, it is not necessary (and indeed may be undesirable) to select works on the grounds of aesthetic excellence or because they are representative of different schools and periods: the criteria for selection are pedagogic rather than aesthetic or historical and have to do with whether the works can be used to develop sensitivity to language in the most effective way.'

Likewise, texts selected for use in the empirical investigation of verse prosody are not selected primarily for their literary merit - and neither poem used here represents its author's best work - but for their suitability for the investigative task to be undertaken.

6.1.1 Keats: *Read me a lesson, Muse, and speak it loud*

Read me a lesson, Muse, and speak it loud
Upon the top of Nevis, blind in mist!
I look into the chasms, and a shroud
Vaporous doth hide them; just so much I wist
Mankind do know of Hell. I look o'erhead,
And there is sullen mist; even so much
Mankind can tell of Heaven. Mist is spread
Before the earth, beneath me - even such,
Even so vague is man's sight of himself.
Here are the craggy stones beneath my feet -
Thus much I know, that, a poor witless elf,
I tread on them, that all my eye doth meet
Is mist and crag, not only on this height,
But in the world of thought and mental might.

In this sonnet - which was reputedly written spontaneously when Keats had just completed an ascent of Ben Nevis - the poet observes the difficulty, on account of mist, of seeing the landscape clearly, and reflects that this is symbolic of the state of our philosophical knowledge of ourselves and the universe, and of the very possibility of our increasing that knowledge significantly.

The poem opens with two co-ordinated imperative clauses: *Read me a lesson, Muse, and speak it loud/ Upon the top of Nevis, blind in mist!* The second of these clauses extends beyond the boundary of the first line to take up the whole of the second line, but in fact *speak it loud* could constitute a whole clause; the protracted extension of the clause by the addition of adverbials after the line boundary therefore comes as a surprise, as does the fact that there is more than one adverbial: the prepositional phrase *Upon the top of Nevis* is one; it is not quite clear whether *blind* and *in mist* constitute two more or combine into a single one. Hence from the start of the poem complex syntax is delivered in a measured way.

Lines 3-9 consist of three sentences, which all have a similar semantic structure: there is a clear parallelism between them. They all contain observations of a part of the landscape: *the chasms, o'erhead, the earth*; they note that these places are obscured by mist; and they reflect that this is symbolic of our lack of knowledge of something: *Hell, Heaven, man... himself.* There are clear parallels between the concrete and the abstract here: *Hell* is compared with *the chasms*, *Heaven* with *o'erhead*, the earth with *man... himself.* As well as this the first two sentences begin with the words *I look*; the third merely implies that the poet looks by giving the results of his observation. There are also the parallelisms of *just so much I wist, even so much* and *even such/ Even so vague*, all referring to the paucity of knowledge. The first two sentences are similar syntactically, both consisting of a clause beginning *I look...* co-ordinated by *and* to a second main clause referring to the observation of mist. The *just so much.../ even so much...* clause is in apposition to this, and these latter clauses have as their objects the noun clauses *Mankind do know of Hell* and *Mankind can tell of Heaven* respectively; there is, then, sufficient complexity to the syntax to encourage a division into several prosodic groupings in a recitation; the somewhat luxuriant syntax challenges the primacy of the metre in the poem's prosodic structure.

The congruence of syntax and lineation here varies, so that parallel syntactic constituents are not necessarily in equivalent positions in the line. Thus *I look into the chasms* begins a line while *I look o'erhead* ends one. On the other hand both *just so much I wist* and *even so much* end a line, so that both the noun clauses beginning *Mankind...* occur at the beginnings of lines. The two halves of *even such,/ Even so*

vague, however, are divided across a line boundary, and *is man's sight of himself*, the semantic (if not the syntactic) equivalent of the *Mankind...* clauses, occurs in the second half of its line. Of the references to mist, *a shroud/ Vaporous* is divided by a line boundary; this boundary, dividing a head noun from a postmodifying adjective, is the strongest enjambment in the poem. *And there is sullen mist* begins line 6. *Mist* in line 7 occurs towards the end of the line, and the clause it is part of is fairly strongly run on, since it begins near the end of the line and is part of an arrest-release structure: *Mist is spread* alone could not constitute a complete structure, so that there is forward impetus across the line boundary to complete it.

Line 10, *Here are the craggy stones beneath my feet*, is the one example of a line which is as it were self-contained: it is a single sentence which fits the line exactly. Syntax and verse-form momentarily come together before another spun-out structure fills the remaining lines. In line 11 *Thus much I know* introduces two parallel noun clauses (*that... that...*) which are the objects of *know*. *Thus much* also contains echoes of *just so much* and *even so much*, while *I know* contains an echo of *I wist*. The first of the two noun clauses delays the complement of the first *that* by interposing an adverbial in the form of a noun phrase: *a poor witless elf*. The second noun clause is also divided into several distinct constituents: its subject is a complex noun phrase whose head is the pronoun *all*; this is then modified by a relative clause *my eye doth meet*. This subject is divided from the verb and complement *Is mist and crag* by a line boundary, emphasising the division between subject and predicate. At *crag* the clause could be complete, but there is then a series of extensions as an adverbial is added: the rest of the line is filled with *not only on this height. not only...* sets up an expectation that a *but...* will follow; it duly does (after the intervention of a

line boundary) in the form of *But in the world of thought*; but this is then itself extended, though at a lower level of the syntactic hierarchy, when a second complement of the preposition *of* is added - *and mental might*; this ends the poem. This section as a whole sums up the poem's theme by explicitly giving the same words - *mist and crag*- both literal and metaphorical senses.

6.1.2 Louis MacNeice: *Perspectives*

Perspectives

The further-off people are the smaller. Grandparents,
Homeric heroes and suffering Bantu
Are nothing in size to the tax-collector
Or the dentist breathing fire on one's uvula.

So the stunted commissionaire bulks larger
Than the massive magnate at the turn of the stairs
While the coffin entering by the west door
Screens the chancel and dwarfs the altar.

Yet sometimes for all these rules of perspective
The weak eye zooms, the distant midget
Expands to meet it, far up stage
The kings go towering into the flies;

And down at the end of a queue some infant
Of the year Two Thousand straddles the world
To match the child that was once yourself.
The further-off people are sometimes the larger.

This poem has a chiastic structure. It begins with a statement of a principle, like a scientific law: *The further-off people are the smaller*. This principle is then illustrated with examples, at some length. Then, at the beginning of the third stanza, precisely half way through the poem, the principle is contradicted by the one word *Yet*, which marks a turning-point. There follow several counter-examples to the initial principle

until finally a modified principle is stated: *The further-off people are sometimes the larger.*

Both the original and the modified principle are illustrated elaborately as one example after another is given. In the first case a list of things is said to be *nothing in size to the tax-collector*; this is then refined by saying that this is also true when they are compared to *the dentist* etc. Then we are told that *the stunted commissionaire* is larger than *the massive magnate*, and then that *the coffin entering by the west door* can obscure the smaller-seeming, but in reality larger, objects at the other end of the church. The examples are linked together by the conjunctions *Or, So, While.* In the second case we are given a list of examples: *the weak eye, the distant midget, The kings, some infant.* In both cases each successive example adds, as it were, another turn of the screw; it extends the discussion of the subject-matter; the careful articulation of the syntax within the form continues as successive but related constituents are delivered, adding to the complexity.

But as well as the complexity of the text taken as a whole, the syntax of the individual parts of it is itself complex. The first example of the initially stated principle has as its subject a closed list of three items: *Grandparents,/ Homeric heroes and suffering Bantu.* These *are nothing in size*, and there in theory the clause could be complete; but then the extension *to the tax-collector* is added. Yet this too is not end of the sentence - a further comparison is made, to *the dentist.* At this stage too we have what could be a complete construction, but *the dentist* is postmodified by a participial clause: *breathing fire* alone could complete this, but there follows the adverbial *on one's uvula.*

Then we are told that *the stunted commissionaire bulks larger/ Than the massive magnate*; this is then extended as *magnate* is postmodified by the prepositional phrase *at the turn of the stairs*. In the next main clause the subject, *the coffin* is postmodified by the participial clause *entering by the west door*, and the main clause has two co-ordinated predicates: *Screens the chancel* and *and dwarfs the altar*.

Line 9 consists of the adverbial *Yet sometimes* immediately followed by another, *for all these rules of perspective*. The listed clauses that follow this within the third stanza gradually increase in length and complexity: *The weak eye zooms* has only a simple subject and verb; *the distant midget/ Expands to meet it* also includes a short adverbial, while *far up stage/ The kings go towering into the flies* has initial and final adverbials and a phrasal verb, spreading over one and a half lines. The clause relating to *some infant* (*And down... yourself*) is technically part of the list, although it is separated from the other items by a semicolon and a stanza boundary: the *And* at the beginning of the fourth stanza links it in. And this is the most syntactically elaborate item of all, spreading across three lines. It opens with an adverbial, *And down at the end of the queue*, consisting of a prepositional phrase, with a second embedded in it and a third embedded in that. The subject is divided by a line boundary; *some infant*, which occurs before the line boundary, cold easily constitute the subject of the clause on its own, but the next line brings an extension in the form of a postmodifying prepositional phrase, *Of the year Two Thousand*. The rest of this line is taken up with the verb and object *straddles the world*. Line 15 then brings a final adverbial which takes up the whole line. It consists of an infinitive clause containing a verb, *To match* and its object; in the latter the article and head noun *the child* could complete the

clause, but there is a further extension in the form of a relative clause *that was once yourself.*

In the first half of the poem the syntax and lineation show greater congruence than they do in the second half. In the first half of the poem major syntactic constituents are usually begun at the beginnings of lines and completed at the ends of lines, although not necessarily the same lines. But if a major constituent is divided by a line boundary it is usually the case that this division comes at the least disruptive point. Thus in the first stanza the boundary of lines 2 and 3, *Bantu/Are*, is the divide between the subject and predicate of the clause, and that of lines 3 and 4, *tax-collector/Or*, is a point at which a complex noun phrase extension is added. In the second stanza, at the boundary between lines 5 and 6, *larger/Than*, comes at the point where a comparative clause is about to begin, and that between lines 7 and 8 *door/Screens*, is a divide between subject and predicate. (The boundary between lines 6 and 7, *stairs/While*, comes between two main clauses.) All of these are natural enough places for some kind of prosodic boundary. The exception to this general rule of congruence is the boundary between lines 1 and 2, *Grandparents/Homeric*. The first and last lines of the poem contain as we have seen partially contradictory statements of a principle. But the first line also includes the first word of the next sentence, *Grandparents*. This provides an asymmetry between the first and last lines which goes beyond the semantic contrast between the two statements of principle. The first such statement appears universally true but is not; the second modifies it to make it nearer watertight. And the first has to share its line with an additional word which belongs to another sentence, a somewhat disruptive effect, while the second, more accurate, version has the last line to itself.

However in the second half of the poem the fit between syntax and lineation is less good. What happens is that the boundaries of major constituents move from the boundaries to the middles of lines; the line boundaries then, because this new pattern is set up, seem less natural places for prosodic discontinuity, *whatever syntactic boundaries coincide with them.* While the boundary between lines 9 and 10, *perspective/The* is a boundary between the initial adverbials and the first of the three clauses they modify - an entirely predictable place for a boundary - the first of the three clauses that follow, *The weak eye zooms*, ends, and the second one, *the distant midget/ Expands to meet it*, consequently begins, in the middle of line 10. The result is that there is a greater sense of run-on at the line boundary, *midget/Expands* even though it is the boundary between subject and predicate which otherwise would be an unremarkable prosodic boundary point. A similar thing happens at the next line boundary, *stage/The* which is a boundary between an initial adverbial and the rest of its clause. The final stanza too is affected by this phenomenon, although in slightly different circumstances. The boundary between lines 13 and 14, *infant/Of* cuts a noun phrase in two; this would be a very strong run-on in any case, but it happens very shortly after the stronger syntactic boundary between adverbial and subject at *queue*, strengthening it further. The complex noun phrase subject ends in the middle of line 14 after *Thousand*; the relatively short segment between there and the line-end increases the strength of the run-on at the line boundary, *world/To*, which divides the object of the clause from an adverbial. The sentence boundary between lines 15 and 16, *yourself./ The*, restores equilibrium before the statement of principle in the last line.

6.1.2.1 Strong-stress metre

6.1.2.1.1 Stresses

The poem has a strong stress metre, derived from that of Old English verse. There are in general four stresses to each line, but there is no pulse or beat. As Attridge (1995:88) observes, strong stress metre is based only on a count of word-stresses, and not of metrical beats. Consequently there is no tension between speech rhythm and metre because the metre has no independent movement; it is purely arithmetical. Some lines have four clear stresses, for example line 2:

Ho**me**ric **he**roes and **suf**fering **Ban**tu

Four stresses can also easily be identified for lines 4, 6, 7, 8, 9, 11, 13 and 15. In others there is apparently some variation of the principles by which stresses are assigned. For example the *off* of *further-off* apparently does not count as a stress for metrical purposes, so that the four stresses are in line 1:

The **fur**ther-off **peo**ple are the **small**er. **Grand**parents,

and in line 16:

The **fur**ther-off **peo**ple are **some**times the **larg**er.

whereas *collector* in line 3 does appear to take a stress on its stressed syllable, although, like *off*, it is the weak element of a compound:

Are **no**thing in **size** to the **tax**-col**lec**tor

In lines 10 and 14 there are more than four stresses; both lines, however, contain three juxtaposed stresses (*weak eye zooms* and *year Two Thou-*) of which the middle one in each case appears to be discounted for metrical purposes (cf. 9.3.1 on the loss of intermediate accents):

The **weak** eye **zooms**, the **dis**tant **midg**et
Of the **year** Two **Thou**sand **strad**dles the **world**

The two remaining lines have some ambiguity about the assignment of their stresses. Line 5 may discount *bulks* on the same principle of discounting the middle of three juxtaposed stresses, giving:

So the **stunt**ed com**miss**ion**aire** bulks **larg**er

or it may discount the secondarily stressed syllable of *commissionaire*, giving:

So the **stunt**ed commission**aire bulks larg**er

Line 12 likewise may discount *go* as being the middle of three juxtaposed stresses (it is eminently deaccentable in speech, functioning here virtually as an auxiliary verb):

The **kings** go **tow**ering **in**to the **flies**

Or it may discount *in-* since *into* is a function word:

The **kings go tow**ering into the **flies**

6.1.2.1.2 Caesurae

In Old English verse a further aspect of the strong stress metre is that it specifies a caesura between the second and third stresses in each line. (The two stresses of each pair thus formed are bound together by alliteration.) There is some evidence from the syntax that a similar metrically specified caesura is being employed here. It is clearest in lines 2 and 8, where the co-ordination of, respectively, noun phrases and predicates creates a natural caesura between the co-ordinated elements:

Homeric heroes | and suffering Bantu
Screens the chancel | and dwarfs the altar.

There is also a clear caesura between the two phrases in line 3:

Are nothing in size | to the tax-collector

and between a head noun and postmodification in lines 6 (after *magnate*), 7 (after *coffin*) and 15 (after *child*); between two clauses in lines 10 (after *zooms*) and 11 (after

meet it); and between subject and predicate in lines 14 (after *Thousand*) and 16 (after *people*). In all these cases a suitable syntactic boundary comes more or less in the middle of the line and between the second and third metrically countable stresses.

Rather less neat are those lines where the most suitable place syntactically for a caesura is somewhat off centre. In line 5 this is between subject and predicate, after *commissionaire*; and if we assume that it is the stress on *-miss-* and not that on *bulks* that is discounted for metrical purposes then a caesura here would lie between the second and third stresses. However in lines 1, 9 and 13 the most syntactically suitable places for caesurae are, respectively, at the sentence boundary after *smaller*, between the two adverbials after *sometimes* and between adverbial and subject after *queue*. These are less perfectly balanced in that they have unequal numbers of stresses on each side.

Most problematic are the lines where from the syntactic point of view there is more than one good candidate for the caesura. Thus line 4 could have it between subject and predicate after *dentist* or between object and adverbial after *fire*, and line 12 could have it in either of two similar contexts, after *kings* or after *towering*. In practice both possibilities in each case are about equally favoured for prosodic boundaries by readers, some making boundaries on both (see 10.1.2.1.3).

6.2 The readers

Each poem was recited by many readers. There are nine Keats readers, seven male and two female (Readers 1-9). They are variously staff and postgraduate students in

linguistics, and staff and postgraduate students in English literature, at the University of Lancaster. Of the former group, all are linguists with a research interest in stylistics. There are ten MacNeice readers (the disparity in numbers simply reflects the number of willing readers who could be found in the time), five male and five female (Readers 10-19). The MacNeice readers were all participants in the 1994 conference of the Poetics and Linguistics Association at Sheffield Hallam University, and again are variously university teachers and postgraduate students of linguistics or English. All readers of both poems are therefore habitual readers of literature and well-versed in its conventions; all are native speakers of English. They were allowed to study the text in advance to get a feel for its structure, so there was probably some small sense of performance to the recitation that they recorded.

6.3 The prosodic features to be investigated

This thesis investigates those prosodic features - rhythmic and pitch patterns - which in verse recitation counterpoint metre and verse form. They are auditory features; the thesis is an empirical investigation of those auditory features.

Cureton (1992) draws heavily on the music theory of Lerdahl and Jackendoff (1983), comparing the themes and motifs of music to rhetorical phenomena in poetry such as syntax, the relative informational richness of a constituent, rhetorical schemes, the forms of 'poetic closure' (Smith 1968) and so on (see chapter 4). The themes and motifs of music and the rhetorical organisation of poetry, Cureton claims, are alike in that from both we infer a structure of rhythmic phrasing.

Now since the present work treats phenomena - pitch and accentuation in speech - which are more directly analogous to the raw material of music, there is a closer correspondence between the subject matter of this work and the rhythmic groupings identified in music by Lerdahl and Jackendoff. Their grouping hierarchy in music has constituents of various lengths which move in and out of phase with metre. Metre in music is what is popularly understood as the 'beat'; it is a regular pulse, which includes the pulse formally laid down by the time signature. The more variable components of musical structure, *grouping, time-span reduction* and *prolongation*, consist of constituents formed of 'the raw sequences of pitches, attack points, durations, dynamics, and timbres in a heard piece' (Lerdahl and Jackendoff 1983:13).

> '[W]e may say that *grouping structure* expresses a hierarchical segmentation of the piece into motives, phrases, and sections. *Metrical structure* expresses the intuition that the events of the piece are related to a regular alternation of strong and weak beats at a number of hierarchical levels. *Time-span reduction* assigns to the pitches of the piece a hierarchy of "structural importance" with respect to their position in grouping and metrical structure. *Prolongational reduction* assigns to the pitches a hierarchy that expresses harmonic and melodic tension and relaxation, continuity and progression.' (pp. 8-9)

These raw materials act as cues to the structure: a listener forms them into groups, and the groups into a hierarchy. At the low levels of the hierarchy the groups are short rhythmic and melodic motifs; these will contain some notes which are accented, by loudness, length or pitch obtrusion, relative to the other notes in the group. The points where these accents occur may or may not correspond to the strong beats laid down by the metre. At higher levels notes and motifs are grouped into recognisable musical themes of various lengths; the metre continues to give an underlying pulse. At higher levels still, whole sections of a piece of music are made up of the large-scale statements and developments of themes.

The analogy with the prosody of verse is clear. As Couper-Kuhlen (1993:112) observes, comparing the prosody of music, verse and ordinary speech, 'Not only are the principles of organization surprisingly similar for all three faculties, but they also allow for the same play-off between abstract construct and actual realization.' In metrical verse the metre gives an underlying pulse; counterpointing this are at low levels the patterns of word stress inherent in the words used in the text; at higher levels the patterns of prominence and rhythmic grouping formed by the disposition of accented and unaccented syllables in connected speech, and at higher levels still the patterns formed by the use of recognisable pitch contours of different shapes. If the Lerdahl and Jackendoff model accounts for the tension in music between metre and the other structural levels then, given the correspondence between the raw materials of music and those of speech, especially recited verse, then it is reasonable to assume that the accentual and pitch patterns of recited verse play a large part in the reader's or listener's total experience of verse prosody. This thesis aims to make some contribution to our understanding of that experience.

The rest of the thesis, then, reflects this prosodic organisation. Chapter 7 deals with the low-level stress patterns; chapters 8-12 deal with accentual patterns; and chapters 13-18 deal with pitch patterns. The final chapters (19-21) make some attempt to synthesise these prosodic levels.

Chapter 7

The default prosodic patterns of verse

We noted in previous chapters that many writers on verse rhythm have not taken their analyses beyond the prosodic patterns which can be inferred from the printed text. It is, however, these patterns which are the foundation for what happens in recitation: reciters either use them or modify them. In this chapter, therefore, I give an account of these default patterns of accentuation and of prosodic grouping, to provide a starting point for the empirical investigation.

7.1 The default patterns of prosodic prominence

When Fowler (1966b:169) writes that the accentual patterns of prose rhythm are 'quite open to analysis [and] need not be deduced from performance' he is presenting an argument against the need for empirical investigation of these accentual patterns. At the level he is dealing with he is surely right. 'Prose rhythm' is the pattern of accentuation which occurs by default, and as such it is highly predictable. Fowler's own rules, given previously, Fowler (1968:155-6) (see 2.3) set out the structure of this default pattern. Chatman (1965:133) also outlines it:

> 'English discourse contains regular, predictable dispositions of accent. Minor words, like prepositions, articles, conjunctions, and pronouns are usually unaccented...'

Knowles (1974:128), not writing specifically about verse rhythm, says: 'Grammatical clitics fall into fairly well defined categories: articles, prepositions, conjunctions,

pronouns and auxiliary verbs.' Attridge (1982) devises a set of metrical rules which specify the ways in which beats and offbeats may be realised by 'stressed' and 'unstressed' syllables. For Attridge the rhythms of English verse are realised by 'a pattern made up only of two kinds of syllable, relatively strong and relatively weak, or stressed and unstressed' (p. 160). This pattern of strong and weak which realises the underlying rhythm is essentially, as Attridge later makes clear, Fowler's 'prose rhythm':

> 'Most nouns, independent verbs, adjectives and adverbs... have one main stress... Conversely, many monosyllabic words whose function is in some sense auxiliary... are clearly to be regarded as [unstressed] and to these we can add most of the syllables in polysyllabic words which do not take the main stress.' (Attridge 1982:216)

The accentual pattern predicted by these rules is also that of the *verse instance* of Jakobson (1960). Rather than seeing verse instance as 'a sum or common denominator of all meaningful delivery instances' (Chatman 1965:96) it is more helpful to see it as a starting point: verse instance has a highly predictable accentual pattern, but performance - all delivery instances - may diverge from it. This is the reverse of Chatman's view that delivery instances come together in verse instance.

Similarly metre is, in Wimsatt and Beardsley's (1959) phrase, 'an exercise in abstraction': it too is a predictable pattern, laid down in a specified scheme - the verse design. Wimsatt and Beardsley were arguing against what they saw as the intrusion of linguistics into metrical studies, but in fact to see metre as an abstraction does not demonstrate that linguistic models of prosody have no place in metrics. Metre too is a starting point, a pattern which a reader may take account of or not. It is what readers do with metre that is a proper concern of linguistics.

7.1.1 A definition of the default patterns of prominence

7.1.1.1 The speech-rhythm default

At the lowest level of analysis accentual patterns are determined by lexical stress and the citation forms of words. Lexical stress is an inherent property of words; it is the stress pattern given by the dictionary, and is reflected by the accentual pattern used when a word is pronounced in its citation form. At this level all monosyllabic words, whatever their grammatical status, have a stress by definition, for example

/ /
book and (pronounced [ænd] not in its weak form [ən])

Polysyllabic words have one main stress, again regardless of grammatical status:

/ / / /
before history reflection opposite

some polysyllabic words also have secondary stress:

/ //
respectability

Words when pronounced in isolation are usually given a tone group to themselves; where a word has only one stress that stress takes the nucleus; if there is a secondary stress then the primary stress will take the nucleus, while a preceding secondary stress will usually have an accent, though a secondary stress that follows the primary stress is not usually accented.

The default accentual pattern of connected speech (and therefore of 'prose rhythm' and verse instance) reflects the immediate effect on lexical stress of concatenating words: at this level of organisation polysyllabic words retain the accentual pattern that reflects their lexical stress pattern, and monosyllabic content

words (nouns, verbs, adjectives, adverbs) also retain an accent, but monosyllabic function words (articles, prepositions, conjunctions, pronouns, auxiliary verbs) have their accent suppressed, and in many cases are reduced to weak forms.

Chatman (1965:123-4) divides English syllables into four types:

a Full-vowel monosyllabic words. This category is subdivided into reducible and unreducible, which as we have seen closely corresponds to the grammatical distinction between function and content words, respectively. The reducible subcategory Chatman calls $\mathbf{a}^1$.

b Stressed syllables of polysyllabic words.

c Unstressed full-vowel syllables of polysyllabic words.

d Unstressed reduced syllables of polysyllabic words.

At the level of verse instance we can regard types **a** - excluding $\mathbf{a}^1$ - and **b** as accented by default, and types $\mathbf{a}^1$, **c** and **d** as unaccented by default. To refer to these default manifestations I shall use the words *strong* and *weak* respectively. All syllables in the poems used in this investigation are annotated as strong or weak on this basis.

One problem with the assignment of default accentual status is that there are untypical examples of some syllable types. For example in words such as *nineteen* and *sometimes* (*somehow, someone, somewhere* etc.) it is perfectly possible when

pronouncing these words in their citation forms to accent both syllables; and indeed *Collins English Dictionary* assigns secondary stress to the syllables *nine-* and *times*. In connected speech, however, one syllable in such words usually loses its accent: most typically this is the syllable with secondary stress. But it may be the one with primary stress: for example in a context such as *nineteen ninety eight* where there is a desire to preserve a rhythmic alternation between strong and weak, the primarily stressed *-teen* may lose its accent and the preceding secondarily stressed *nine-* have an accent. As we shall see in section II, metre can affect accentual patterns, and the metrical position of words such as these may affect which of the two syllables retains its accent. For example:

× / × / × / × / × /
Sometime too hot the eye of heaven shines

(Shakespeare: Sonnet 18)

× × / × / × /
But it soon wears off somehow

(Philip Larkin: *Take one home for the kiddies*)

where it is the second, secondarily stressed, syllables of *Sometime* and *somehow* which are in the ictic (metrically strong) position and therefore more likely than the first, primarily stressed, syllables to retain the accent (and in the latter case, since *somehow* is at the end of the line, end-focus adds pressure to accent *-how* rather than *some*). In such cases I treat both syllables as by default strong: although there is metrical pressure to use a particular accentual pattern, a performer need not succumb to this pressure; the question of which syllable is deaccented is one of whether the performer 'reads for the metre' or not; the point is whether the theoretical accentability of either syllable is departed from; whether, that is, accent*ability* and

accent*uation* conflict or not in the case of each syllable. Indeed this principle applies to any secondarily stressed syllable, regardless of whether it is an untypical example of one or not: 'for the purpose of metrics we can ignore [secondary stress] and be content to regard *trepidation* and *counterfeiter* as rhythmically alike' (Leech 1969:107). For the same reason I annotate as strong all the syllables of compounds which can be so annotated when the elements of compounds occur as separate words, even though there is a normative accentual pattern for compounds to suppress the accent on all syllables except for that of the first accentable syllable.

7.1.1.2 The metrical default

In metrical verse the metre provides a separate default pattern for accentuation. Metre is the invariant abstract 'metrical set', defined by Leech (1986:113) as a 'pattern of mathematical regularity' which underlies each line of verse written in a given metre: this is Jakobson's *verse design*. By default metre can be instantiated in performance by accenting all the ictic (strong pulse) syllables and deaccenting all the remiss (weak pulse) syllables, regardless of their normal accentability in speech. In some lines of metrical verse the metre will match the speech rhythm default pattern - verse design and verse instance are then one. But when a metrical set is established in the reader's mind, the metre will have some movement of its own even where verse instance departs from it. The following listing construction consists entirely of monosyllabic accentable words:

One, two, three, four, five.

If, however, we begin to read a poem in a strong triple metre:

Hist, but a word, fair and soft!
  Forth and be judged, Master Hugues!
Answer the question I've put you so oft:
  What do you mean by your mountainous fugues?
See, we're alone in the loft, -

(Browning: *Master Hugues of Saxe-Gotha*)

and having established this metre in our minds we reach, in the eighteenth stanza, the line

/ x x / x x / x x / x
One, Two, Three, Four, Five, contribute their quota;

then regardless of how we might perform the line we have a sense of prominence on *One* and *Four* which does not exist on *Two, Three* and *Five* because *One* and *Four* are ictic and the other three are not. But in the twenty-third stanza we come upon the line:

/ x x / x x / x x / x
Bid One, Two, Three, Four, Five, clear the arena!

Of these five syllables only *Three* is in ictic position and has this kind of felt prominence. Nonetheless the accentability of all of *One, Two, Three, Four* and *Five* remains in both stanzas; it is not clear whether the speech-rhythm or the metrical default would be brought out more in performance.

Recited metrical versė is, then, a special case as far as prosodic structure is concerned. There are two default patterns; the metre can subvert the speech-rhythm default and vice versa. Insofar as each default pattern sets up an expectation of what an actual accentual pattern will be, each default can defeat the expectation set up by the other.

What precisely is the relationship between the two defaults? While there is general agreement, as we have seen, that the essence of verse rhythm is a tension between the two default patterns, there has been some disagreement about what this means in practice. Fowler (1968:147) appears to believe that both verse design and verse instance are clearly perceptible in our response to any one line:

> 'We can have an *instance* /-u/u-/u-/u-/u-/ which is at the same time the *design* /u-/u-/u-/u-/u-/... The verse design in its perceptual reflex "metrical set" is /u-/u-/u-/u-/u-/, and this serves as a frame for variant actualizations (instances). We see instance through the grid of metrical set'.

Attridge (1982:172), on the other hand, argues that rhythmic tension

> 'is not so much a tension between the metrical pattern and the actual syllables... but the result of a regular rhythmic movement being slowed down and speeded up... The alternative view, that the underlying regular metre ticks away independently of the actual line, and that the tension we experience arises from the distance between the two... is unconvincing as a psychological model. Though it remains true that the easiest way to talk about rhythmic tension is in terms of the relationship between an underlying metre and a verbal realisation, one should be fully aware that this does not imply two independent psychological levels, but a single complex experience.'

As we read, what we have is certainly 'a single complex experience'; we have a sense, as Attridge writes elsewhere, of 'an onward movement which at times approaches a marked regularity and at times departs from it, constantly arousing and thwarting rhythmic expectations' (1982:16-17). This does not mean, however, that having two independent patterns, operating simultaneously, is not a useful model for an empirical study. Performance may be influenced by either default pattern; when we investigate performance we need to have both default patterns to hand to investigate where each exerts its influence.

Attridge's *beat* and *offbeat* are in fact conflations of the metrical strong and weak pulses of ictus and remiss, and the strong and weak syllables of the speech-rhythm default; the perception of beats and offbeats can be seen as cued by both defaults when the defaults are congruent, and one or the other when they are not congruent.

7.1.2 The cueing of accentual patterns by the default patterns

In this section all examples are taken from *King Lear* Act IV, Scene 1. When the metrical and speech-rhythm defaults do not clash, all ictic positions are filled by strong syllables and all remiss positions by weak ones. Both default patterns cue accents and nonaccents in the same places (these are the circumstances covered by Attridge's base rules):

The worst returns to laughter. Welcome then

By default there is a clear alternation between accented and unaccented syllables in lines such as this.

When a weak syllable occupies an ictic position (Attridge's *promotion*) the metre cues accentuation but the speech rhythm default does not:

Than still contemned and flattered. <u>To</u> be worst

Would the infinitive *to* in this line be accented in performance or not? According to Attridge, although we feel a beat in such a context, it is nonetheless an unstressed syllable; to say that such a syllable realises a beat is therefore to say that perception of a beat is here cued entirely by the metrical set. If we interpret 'unstressed' in this context as meaning 'deaccented by default' this is true as far as the printed text is concerned. But in performance it is not impossible that some prominence would be given to *To*. The default patterns pull in opposite directions; how a reciter would resolve this tension, wholly in favour of one default or the other, or with some kind of compromise (e.g. prominence that falls short of accent) we cannot know in advance.

Similarly, when a strong syllable occupies a remiss position (Attridge's *demotion*) the speech-rhythm default cues an accent while the metrical default cues a nonaccent:

My father, parti-eyed! <u>World</u>, world, O world!

Attridge believes that a demoted syllable is still a stressed one; perception of an offbeat here is entirely a matter of metrical set. But again the defaults pull in opposite directions: would the demoted syllable in this line, the first *World* lose its accent because of its metrical position? Or retain it because it is a content word and so normally accentable?

In cases of *reversal* (the contexts covered by Attridge's notion of *pairing* - see 3.2) there are two adjacent mismatches between metrical and speech rhythm defaults:

a strong syllable in remiss position is immediately followed by a weak syllable in ictic position:

> Away! Get thee away! Good friend be gone

or vice versa:

> 'Tis the times plague when madmen lead the blind

Attridge treats this phenomenon as two juxtaposed beats followed by a double offbeat (*-way! Get thee a-*), or the reverse (*'Tis the times plague*). By assuming these patterns of beats he assumes a reading in which two accented syllables are followed by two unaccented syllables or vice versa; a reading in which the speech rhythm default 'wins'. But we do not know whether this would be so in all recitations; the weak syllables here still have some potential for accentuation by virtue of their possession, as independent words, of lexical stress; and the strong syllables *could* lose their default accent; if both these things happened to the syllables for which the defaults clash we would have a 'reading for the metre' at the relevant point. In almost all contexts in which the metrical and speech rhythm defaults clash,

> 'In recitation, we may insist that the metre yield entirely to "prose rhythm", or we may strike a compromise... or we may even sacrifice "prose rhythm" entirely to metre, reciting in [an] artificial manner' (Leech 1969:122).

In short, in investigating accentual patterns in poetic performance, we are concerned with *how readers negotiate tension*: do they read for the metre, for the sense, or somewhere between the two?

There is one clash between the metrical and speech rhythm defaults which for our purposes we can treat as certain *not* to be read according to the metre. This is when a reversal is cued by the *lexical* stress pattern:

Angering itself and others. Bless thee, master!

The mismatch here consists not only in the fact that a strong syllable, *Ang-* occupies a remiss position in the iambic line, while a weak syllable (or to be more accurate two elided weak syllables) *-ering* occupies an ictic position. It consists also in the fact that the syllables which realise the inversion both belong to the same word. Hence we can no longer say that there is a possibility, however faint, of a recitation according to the metre at this point: our reason for saying so in the previous two examples was that even the weak syllables, though normally deaccented, had lexical stress (i.e. theoretical accentability); but the weak syllables of *Angering* are lexically unstressed. I call this kind of reversal *lexical reversal*, and treat it as a context in which in performance speech rhythm is bound to 'win' any contest of tension between it and the metre; in effect the tension is neutralised so far as performance is concerned. (Cf. Tsur (1997:38)'s contention that when metre and speech rhythm conflict the listener perceives a resistance to the conflict by the metre, a resistance which is stronger the greater the conflict, until an - undefined - point is reached where the metre 'suddenly disappears from consciousness, and tension ceases'.) For annotation purposes, at the level of the metre I regard ictus and remiss as having changed places in lexical reversals (see appendix).

There is however one context in which a lexically unstressed syllable can occur in a reversal and the reversal not be a lexical reversal. This is when the syllable in question is the final syllable in a trisyllabic word whose stress pattern is *stress, nonstress, nonstress*. For example:

Stands still in esperance, lives not in fear

-ance, though a weak syllable, occurs in ictic position, and *lives*, though a strong syllable, occurs in remiss position; there is a reversal. Now *-ance* is lexically unstressed. But the regular alternation of the metrical set could allow it to be felt as a beat (like a promotion) and possibly to be given some prominence in performance; while *lives*, correspondingly, could be felt as an offbeat, and could lose its accent in performance. The point is that *-ance* and *lives* realise the reversal but do not belong to the same word. This, then, is not a lexical reversal; the reversal need not be reflected in performance, though it easily could be.

7.1.3 Beyond the default patterns

Whether or not the default patterns clash, there is no certainty that performance will conform to either of them. In connected speech not everything which is accentable is in fact accented; where accentual patterns are produced which differ from both default patterns this can tell us something of how readers interpret poetic texts. The shortcoming of studies of verse rhythm which confine themselves to verse design and verse instance is that they confine their attention to the lowest levels of rhythmic organisation when there is much more to verse prosody than that; but higher levels of

organisation go beyond what happens by default: to investigate them we need to analyse the oral performance of verse texts.

Leech (1986:115) recognises performance as a level distinct from metre and speech rhythm because, amongst other reasons, 'We may assume that the poet means us to "hear" (so to speak) the interplay between the metrical set and the linguistic rhythm, and the degree to which the underlying metrical pattern is highlighted is a stylistic choice of performance in itself'. This hints at more than it says. We can investigate these stylistic choices, the accentual patterns used to resolve in performance the conflicts between metre and speech rhythm, and those which differ from both default patterns, to gather evidence on readers' experience of verse prosody at all levels.

7.2 The accent group - the default pattern of prosodic grouping

Knowles (1974:124) observes that, as well as being a matter of prosodic prominence and pulse, 'Rhythm is also concerned with the grouping of long and short or strong and weak'. He continues:

> 'Syllables and segments tend to group round a *peak*; and *proclitics* which anticipate the peak are related differently to it than *enclitics* which follow ("lean on") it. As a general impression, proclitics are rushed over on the way to the peak, while enclitics are lingered on' (p. 126).

This model of rhythmic grouping - proclitic-peak-enclitic - applies to groupings of all sizes, from tone groups down to syllables and even individual segments (insofar as they can be isolated). For example in a tone group the peak is the nuclear accent; the prenuclear constituents of prehead and head are proclitic, while the tail is enclitic.

The model is essentially a formalisation of the build-up, peak and decay of acoustic energy which occurs continually during speech production.

As is the case with accentual patterns, the precise pattern of tone group structure is a matter of performance, and cannot be inferred from a printed text. But at the level of the speech rhythm default there is a default level of grouping as well as a default accentual pattern. This default grouping is that known as the stress group (Kingdon 1958), clitic phrase (Cureton 1992, Nespor and Vogel 1986, Selkirk 1984) or accent group (Knowles 1987). It has at its peak a strong syllable; this peak is an obligatory element of accent groups. Optional proclitic (or *leading*) and enclitic (or *trailing*) weak or secondarily stressed syllables may cluster around the peak. Attridge (1995:38) says that weak or secondarily stressed syllables 'tend to be perceived as attached to a preceding or following fully stressed syllable'. The proclitic and enclitic syllables may be ones that cluster around the peak because they belong to the same word: they are the unstressed syllables of a polysyllabic word whose stressed syllable is the peak of the accent group. They may also attach to a peak which is in a different word but with which the clitics have some minimal syntactic cohesion, for example a pronoun that is clitic to a verb or a preposition that is clitic to a noun.

An accent group, then, may consist only of a monosyllabic word, of a peak only. This will be so if there are no clitics adjacent. For example in the phrase *accent group* itself the word *group* is an accent group in its own right: the preceding weak syllable is the unstressed syllable of *accent* and is therefore enclitic to *ac-* An accent group may be a single polysyllabic word, for example *benign* (proclitic-peak), *butter* (peak-enclitic), *determine* (proclitic-peak-enclitic). It may consist of a peak, and separate

monosyllabic words as clitics; compare the preceding three examples with, respectively, *I know, shut it, we missed you.* It may combine the previous two characteristics and consist of a polysyllabic word and some monosyllabic clitics: *he replaced them, from the cathedral.* The point is that, when the clitics are separate words they nonetheless function rhythmically as if the entire group consisted of a single polysyllabic word. The accent group is a default rhythmic grouping in that we can infer the pattern of accent groups from the default accentual pattern: accent groups are composed of one strong (accented by default) and a variable number of weak (deaccented by default or lexically unstressed) syllables. This default grouping can of course be overridden in performance if a weak syllable is accented for a special purpose.

Accent groups obviously vary in length and precise pattern; they do not have the undeviating form of feet or lines of metrical verse. A consequence of this is that in metrical verse the structure of accent groups cross-cuts the regularity of the metre. This aspect of verse structure is examined by Cummings and Herum (1967). They argue (p. 406) that English metre rests 'on a norm of iambic segmentation' as well as one of iambic accentuation, because the weight of the English poetic tradition has led experienced readers to expect this. That is, we expect that there will be a minimal syntactic boundary after the stressed syllable in an iambic foot. Taking examples from George Herbert, Cummings and Herum show that, when accent groups and metrical feet in iambic verse coincide, this expectation is fulfilled:

Betwixt this world and that of grace

But where the two segmentations do not coincide, there is tension:

What open force, or hidden charm.

On this line they comment:

> 'The normative pressure to segment after the accented syllables is not dissolved, for the expectation that generated the pressure [sc. coincidence of metrical and grammatical boundaries] has not been gratified. The pressure slides forward in the line, and the expectation is gratified by the perception of a phrasal cut for metrical purposes as soon as the other [syntactic etc.] norms relinquish dominant control.' (p.410)

These 'other' norms are of course ones of the language as a whole and not just verse: we do not expect a speaker to pause in the middle of a word, and the accent group is a rhythmic grouping of any speech. The tension between metre and speech rhythm first begins to operate at this level, as the two levels of rhythmic grouping move in and out of phase.

We need not, however, include the foot as such in our model of verse structure to see that there is a counterpoint between accent groups and metre. In neither of the Cummings and Herum examples cited here is the metre realised by any but the base rules, in Attridge's terms: all beats are manifested by strong syllables and all offbeats by weak ones, and in both lines beats and offbeats alternate throughout. Yet in the second example this regular alternation is counteracted by the sense that the weak syllables which realise the offbeats cluster around accent group peaks in irregular patterns. Attridge (1995:38) makes a distinction between *rising* and *falling* rhythms. Rising rhythms are those in which the predominant accent group pattern is proclitic-peak, for example:

For thee, | against | myself | I'll vow | debate

(Shakespeare: Sonnet 89)

Falling rhythms are those in which the predominant accent group pattern is peak-enclitic. In English verse these are rare in pure form, and tend to be confined to song-like refrains. One example is:

'Cusha! | Cusha! | Cusha!' | calling

(Jean Ingelow: *The high tide on the coast of Lincolnshire*)

Rising and falling rhythms are a matter of speech rhythm: they are to be distinguished from iambic and trochaic metres. Either kind of rhythm can in principle occur with either kind of metre. In practice the variability of accent groups means that most poems mix rising and falling rhythms in the same line, as for example:

Flowers | and grass | and cloudless | sky

(Yeats: *Under Ben Bulben*)

where the first accent group has a falling rhythm, the second a rising rhythm, the third is mixed and the fourth, because monosyllabic, neither; but the line's metre is trochaic regardless of this variation.

When in practice patterns of grouping and accentuation move beyond the default patterns it is because accent groups have begun to be concatenated and formed into higher-level prosodic domains. Just as the default accentual pattern is only the beginning of any detailed study of accentuation, the accent group - the default grouping - is only the beginning of any examination of rhythmic grouping. Knowles (1987:124) observes that the tone group 'consists either of a single accent group, or of

several accent groups run together in an unbroken rhythmical sequence.' To study this combination and its characteristics we must study performance. It is the patterns of prominence and grouping in poetic performance that I turn to in the remaining sections.

Section II: Accentual patterns

Chapter 8

Rhythmic and pitch-pattern groupings

Much of the rest of this thesis will be an analysis of prosodic grouping in verse recitation, of its structure and its use as an exponent of textual constituents. This chapter therefore sets out my presuppositions about prosodic grouping above the level of the accent group, arguing the need for the three levels of rhythmic and pitch patterns and prosodic discontinuity features to be annotated separately, against the traditional analysis of the tone group, which conflates them. This discussion is necessary for its own sake, but also has implications for our examination of accentual patterns. Just as monosyllabic function words lose the accent of their citation form when they combine into accent groups, so some strong syllables can in performance lose their default accent when they are incorporated into larger prosodic groupings. Knowles (1987:122) observes that a tone group 'consists either of a single accent group, or of several accent groups run together in an unbroken rhythmical sequence'. We can say that when strong syllables (which by definition are accent group peaks) lose their default accents this accent loss takes place at the level of the tone group.

8.1 The traditional analysis of the tone group

The internal structure of the tone group is set out by Crystal (1969:207-208); as he says, there was when he wrote 'general agreement' about this structure as he gives it. His exposition is as follows:

> 'Minimally, a tone-unit must consist of a syllable, and this syllable must carry a glide of particular kind. This is the obligatory element, and is usually referred to (in the British tradition) as the *nucleus* of the tone-unit... The presence of a nucleus is what accounts for our intuition of "completeness" at the end of the unit: if it is omitted, the auditory effect is one of "being cut short". Maximally, the tone-unit may consist of three other places, or segments, though only the first two of these are normally independently contrastive: the head, the pre-head, and the tail.
>
> 'The *head* of the unit refers to the stretch of utterance extending from the first stressed and usually pitch-prominent syllable (or onset) up to, but not including, the nuclear tone. It consists of an unspecified number of stressed and unstressed syllables (at least one of the former)...
>
> 'The *prehead*... refers to any utterance which precedes the onset syllable within the same tone-unit. It consists of an unspecified number of unstressed syllables (at least one), but occasionally, under certain conditions, syllables with some slight degree of stress (not equivalent to the stress of the onset syllable, and never with pitch prominence) may occur there...
>
> 'The *nuclear tail* consists of an unspecified number of stressed or unstressed syllables (at least one of either) following the nuclear syllable, usually continuing the pitch movement unbrokenly until the end of the tone-unit. In such cases, being wholly conditioned by the nuclear tone, the tail has no inherent linguistic contrastivity, and only degrees of stress may be distinguished within it.
>
> '[W]e may now make a characterisation of a tone-unit's maximal internal structure as being:
>
> Prehead Head *Nucleus* Tail
>
> the only obligatory element being the item in italics. In fact, the majority of tone-units tend towards this maximal type.'

The tone group is also defined by phonetic cues to its boundaries: 'any process of intonation analysis will take simultaneous account of both boundary cues and internal

structures.' 'Internal structures' means the presence of a nucleus; given that presence of a nucleus is necessary for the tone group to sound complete, we can assume that there will be a boundary following the nucleus (or tail, whose form is governed by the nucleus). The boundary itself is also usually marked by 'two phonetic factors...Firstly there will be a perceivable pitch change [i.e. a change in the trend of the pitch contour] ... The second criterion... usually takes the form of a very slight pause.' (pp. 205-206)

8.2 Problems with the traditional analysis

What is clear from this exposition is that the tone group is a complex structure: its characteristics include the trends of pitch movement in its contour, rhythmic patterns of prosodic prominence (criteria are given for the occurrence of stressed and accented syllables in the prehead, head and tail), and the features which signal its boundaries. This range of characteristics can cause difficulties for analysts of prosody. Brown, Currie and Kenworthy (1980:29), for example, report difficulties in identifying tone groups in connected speech, while Ladd (1986) examines in some depth the problem of conflicting criteria for the identification of tone groups. He gives the following as the properties common to most conceptions of the tone group:

(i) They are the largest phonological chunk into which utterances are divided, extending from one phonetically definable boundary to the next.

(ii) They have a specifiable intonational structure, including - in most versions of the theory - a single most prominent point (primary stress, tonic, nucleus).

(iii) They are phonological units which are nevertheless assumed, ideally, to match up in some poorly understood way with elements of syntactic or discourse-level structure.

(Ladd 1986:311)

Ladd demonstrates that there is confusion about the definition of the tone group and about its identification from phonetic cues. He gives the pair

(1) a. My brother lives in Denver

b. My brother, who is a geologist, lives in Denver

pointing out that a fall in pitch on *brother* is likely to take place in both utterances; in 1b however, *brother* 'would be followed by a quick upturn in pitch, accompanied by a prolongation of the syllable and then followed by a brief silence'. This would not happen in 1a, where 'pitch would remain fairly steady through *lives* and *in* until the steep rise to the second peak on *Denver*' (p. 312). Ladd believes that this presence of a pause and a reset of pitch in 1b cues a tone group boundary (similarly after *geologist*); the absence of these discontinuity features in the first example means that the utterance is a single tone group.

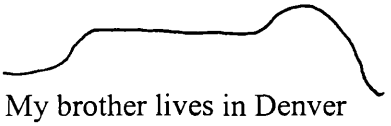
If, however, we compare the pitch contours of

[Context: How did you decide to take your vacation in Colorado?]

(2) a. My brother lives in Denver

and

[Context: Are you going to visit your brother when you're in LA?]



b. My brother lives in Denver

it is unlikely, Ladd believes, that either would have pause or pitch reset after *brother* 'but pitch cues nevertheless impart greater prominence or separateness to *My brother*' in 2a than in 2b. In 2b we have an onset on *brother* and a falling nucleus on *Denver*; in 2a the similarity of the fall on *brother* to that on *Denver* is likely to cause us to construe *brother* as carrying the first of two nuclei in the utterance. But if we have two nuclei we must have - even in the absence of any discontinuity features between them - two tone groups. Yet 2a has the same melodic shape as 1a which was regarded as one tone group when compared to 1b, which contains discontinuity features that 1a does not. Ladd summarises the problem as follows:

> 'If we decide (on the basis of the comparison with (2b)) that [1a/2a] has two nuclei, then *by definition* it consists of two I[ntonational] P[hrase]s and hence contains an intervening boundary. If we decide (on the basis of the comparison with (1b)) that it contains no boundary, then *by definition* it consists of only one IP and hence has only one nucleus. But it is the theory - not the observations - that forces us to choose...

> IPs are supposed to be delimited by boundary phenomena of some intuitively definable sort, but they are also supposed to have well-defined internal phonological structure... So any stretch of speech set off by audible boundaries is assumed to be an intonational phrase, and at the same time any stretch of speech identifiable on structural grounds as an intonational phrase is assumed to be set off by boundaries.' (pp.313-314)

This is an elegant statement of the problem, but Ladd's solution is to have two levels of intonational grouping, the tone group, defined as being the domain of a single nucleus, and the *major phrase* which in addition is set off by audible boundary features. This recalls Trim (1959:321)'s distinction between major and minor tone groups, in which he argued 'that some sequences of tone-groups constituted major units into which the constituent tone-groups were integrated by some formal device or devices'. Ladd's analysis still postulates prosodic domains which internally are complexes of features, and this is part of the problem.

8.2.1 Discontinuity features

Knowles (1991) examined the tone group boundaries identified by the two transcribers of the Spoken English Corpus and found them to be marked by various combinations of the following discontinuity features:

Temporal discontinuities. A temporal discontinuity is either a measurable pause or final lengthening that is, a reduction in speech rate which, indicating preparation for a pause, can substitute for it.

Pitch discontinuities. 'This means that the line of the preceding pitch contour is broken. Following a rising tone, syllables continue to rise; after a level they

keep more or less to the same pitch; and after a fall they remain low. The commonest kind of pitch discontinuity is a jump up in pitch following a fall; other examples are a drop after a rise, and a jump up or down following a level.' (p. 152)

Segmental discontinuities. These are either segmental features positively indicating discontinuity, such as final devoicing or glottal reinforcement of a vowel immediately following the boundary, or the absence of features which would indicate continuity such as the avoidance of linking r.

It may also happen that a pitch contour can be recognised from its internal structure as complete but has no perceptible discontinuity features.

The discontinuities

'form a rough implicational scale so that if there is a temporal discontinuity, there is a high probability (but $p<1$) that the pitch contour will be discontinuous. Secondly, if there is a pitch discontinuity, there is a high probability (but again $p<1$) that any appropriate segmental discontinuities will also be found. This suggests a hierarchical arrangement so that the most important boundaries are marked temporally, lesser ones by pitch, and the least important by segmental patterns only.' (p. 153)

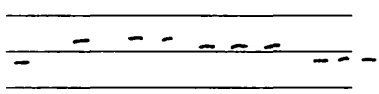
This is clearly a more complex state of affairs than Ladd's binary division suggests. Knowles concludes that

'The interaction of [the discontinuities] is far too complex to be handled by a simple major/minor distinction, and they need to be studied on their own terms.

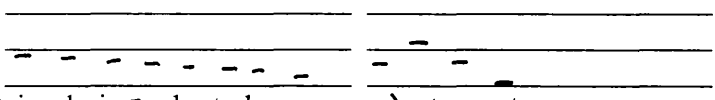
In the texts studied for this paper, discontinuities conveniently coincided with the boundaries between intuitively recognizable groups. Elsewhere in the corpus, breaks occur in the middle of groups, e.g. in the case of hesitation pauses, and between direct speech and reporting phrases. There is thus no one-to-one relationship between prosodic breaks and prosodic group boundaries. At

any rate, groups and discontinuities must be seen as in principle separate.' (p. 158)

This analysis gives us greater subtlety than simply deciding whether there is or is not a tone group boundary: we can rank degrees of discontinuity without having to judge (at least at the same time) whether the pitch contour that precedes an occurrence of discontinuity features constitutes a tone group or not, or having to incorporate separately-measurable discontinuity features into an abstraction such as 'major phrase'. How for instance would any division into tone groups account for the following attested example?



be¯came an A·merican_citizen [pause]



¯simply in¯order to be·come an`astronaut

(*The World at One*, BBC Radio 4, 9 February 1995)

The pitch accent on *citizen* can be construed as a nucleus, because it is followed by a pause, and because immediately after *citizen* an adverbial clause begins. This might seem to be a major phrase boundary according to Ladd's criteria. On the other hand there is no pitch discontinuity, and there is a steady downward progression of pitch from (*be*)*came* until immediately before *astronaut*. The pitch through the entire utterance has a unity which suggests that it is a single contour. The cues of pitch and discontinuities conflict. Is this one tone group or two? And if it is two is it a major boundary or a minor one?

8.3 The separate annotation of rhythm, pitch and discontinuity

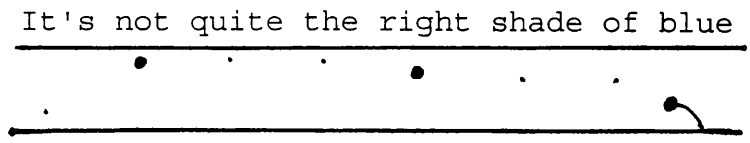
We clearly need to separate the analysis of discontinuity features from that of the internal structure of prosodic groupings, but if we do so it is still the case that the internal structure of tone groups is traditionally defined by criteria both of pitch and rhythm. The widely-used tonetic stress mark system of annotation (e.g. Kingdon (1958)), for example, uses a set of symbols each of which marks both an accented syllable and the behaviour of pitch on that and possibly subsequent syllables. Now Knowles (1987:124) argues that 'rhythmical patterns of timing and prominence' are not 'neatly separated from the pitch patterns of intonation... Accentuation straddles rhythm and intonation'. That is to say, while accent is signalled by means of pitch prominence, what form that prominence takes is not fixed; the pitch contour has some independence of form despite the requirements of accentuation. While this is true it is also true, as I argue in chapter 14, that tying the definition of pitch patterns to the behaviour of pitch on accented syllables, and in particular nuclei, masks significant characteristics of pitch patterns, significant particularly in verse recitation: we can perceive pitch patterns as a whole, separate from the prominences they contain. Perhaps 'neatly' is the operative word: rhythmic and pitch patterns are related, but that is not to say that they are not separated at all.

We can annotate rhythmic and pitch patterns separately, just as we have separated discontinuity features from the all-embracing category of the tone-group boundary. This has been the practice of most American analysts of speech. Pike (1945:30) for example writes that 'Intonation contours are intimately related to pauses

and rhythm' but 'must be kept distinct' from them. 'Pause and rhythm are closely dependent upon one another in some of their elements and usage, but in other ways are independent, and so must be handled as separate significant entities' (p. 30) and that the potential for a break between rhythm units is stronger at the end of a primary (pitch) contour, but can in principle occur anywhere (p. 37): there is not a neat separation between rhythm and pitch, but there is a separation. The separate annotation of rhythm and pitch has been practised by American analysts beyond Pike up to the present time (e.g. Trager and Smith 1951, Hockett 1958, Pierrehumbert 1980) although for some of them this reflected a belief in the two levels' actual physical separation.

However, although onset and nucleus are normally defined in terms of both rhythm and pitch, if we separate these two levels there is still a place for the internal structure of the tone group as given by Crystal. In chapter 14 I criticise the use of nucleus type as the defining feature of entire pitch patterns. Nonetheless, even if we dispense with the tone group as such, and cease to use nuclear tone as the defining feature of *pitch* patterns, onset and nucleus still have a psychological reality and a function. If we synthesised some speech, or altered a recording of real speech, in such a way that it contained no discontinuity features and was spoken in a monotone, it would still make sense to speak of onsets and nuclei in the result. What would remain would be their rhythmic function: 'the largest rhythm unit is the tone-unit, which peaks at the nuclear accent, the "head" being proclitic and the "tail" enclitic' (Knowles 1974:126). Knowles also observes that 'As a general impression, proclitics are rushed over on the way to the peak, while enclitics are lingered on'. Similarly the prehead is proclitic to the onset.

To define nucleus simply as the most prominent accent in a tone group conflates different kinds of prominence. Cruttenden (1986:51) gives the following example:



and comments: 'there is firstly a step-up, then a number of steps-down, the final step down involving a slight movement down-from. If asked which is the most prominent word in such sequences, some listeners say the initial step-up, while others say the final step-down.' The problem here surely lies in the fact that there are two kinds of prominence. *not* shows a greater pitch obtrusion than *blue*; but *blue* is nonetheless pitch prominent and is also a rhythmic peak relative to *not*. Which syllable is judged as the 'most prominent' depends on whether listeners make their judgement from pitch prominence alone or from a combination of pitch and rhythmic prominence. If we separated the two for analytical purposes then 'nucleus' could denote simply a pitch accent which came at the rhythmic peak (in the context of the level of rhythmic analysis traditionally associated with a tone group).

We now have three levels of prosodic annotation for our data: pitch patterns, rhythmic patterns and discontinuity features. Section III deals with pitch patterns, while the contribution of discontinuity features is briefly examined in chapter 19. The remaining chapters of this section deal with the rhythmic patterns I here call **nucleus groups**: these are simply minor tone groups defined solely by rhythmic criteria: pitch

patterns and discontinuity features have been abstracted for the purposes of the analysis.

However, even where these potentially conflicting cues are removed this does not mean that identifying nucleus groups is always straightforward. Just as it can be unclear whether or not there is a prosodic boundary in a given position, so it can be unclear whether or not a given pitch accent is a nucleus. For example Reader 3 accents the second half of the first line of the Keats sonnet as follows:

and SPEAK it LOUD:

Pitch remains low until a jump-up on *loud*, which is also lengthened. Since *speak* is the first accent we treat it as an onset; this creates an expectation of a nucleus to follow. Yet the jump-up on *loud* (without a descent on the same syllable or to a tail) is itself a feature typical of onset, which very often carries the reset in pitch after a boundary. On the other hand the lengthening is a discontinuity feature which might suggest a following boundary, which itself would suggest that *loud* carried the nucleus. In fact *loud* initiates a series of alternating high and low syllables:

```
loud  pon      top     Ne
     u    the      of   vis
```

These syllables together constitute a pattern which makes them cohere as a prosodic unit. So are we to call *loud* a nucleus or not? A similar example is produced by Reader 15 (the colons indicate lengthening):

And DOWN: at the END: of a QUEUE

The trend of pitch is continuously downwards, in itself suggesting a single tone group. But the lengthening of *down* and *end* suggests that these words carry the nuclei of separate tone groups. Moreover, whereas *loud* in the example above has three syllables (*and speak it*) which can function as prehead and head and stand as proclitic to it, adding weight to the case for its being a nucleus, *down* has only the prehead *And.* And if *down* is ambiguous between onset and nucleus then *end* also is, as quite apart from the ambiguity of its own prosodic features we are unsure whether to 'expect' onset or nucleus. I simply annotate ambiguities as such; such ambiguities are referred to as 'ambiguous groups/ boundaries'.

According to the model of prosodic grouping set out here, then, it is at the level of the nucleus group that accentuation and accent loss takes place in performance. This view of grouping is the context in which we can now discuss accentual patterns.

Chapter 9

Accentuation and accentual patterns

Fowler (1971:186) speaks of 'the texture of particular pieces of verse'. He defines 'texture' somewhat vaguely, as 'a generalization of the character of verse instances, the "feel" of a poem or passage given by a distinctive organisation of linguistic details repeated in many lines.' One determinant of texture is the ways in which the metrical and speech-rhythm default patterns (see chapter 7) diverge in a given piece of verse. But even where they do not the accentual patterns of a recitation will contribute to the texture of the verse. In this chapter I look at the means by which syllables are made prominent. I then put forward a model of the formation of accentual patterns in connected speech, arguing that this is a matter not of accenting the syllables it is desired to accent but of removing the default accent of those syllables it is not desired to accent. I then discuss some of the circumstances in which strong syllables can lose their default accent, including the circumstances in metrical verse in which the metre exerts pressure for an alternative pattern. In the three following chapters I apply this model to the analysis of the accentual patterns in the recitations.

9.1 Linguistic models of prosodic prominence

To investigate accentual patterns we need an adequate model of the types of prosodic prominence syllables may have. What kinds of prominence are we looking for? The model I adopt here is that given by Knowles (1974), by which syllables fall into one of four types. First, those having a pitch accent. Second, those realising a rhythmic beat;

they are perceived as salient but are not pitch prominent. Third, syllables which are in our definition strong (see 7.1.1.1), but are unprominent: they are, that is to say, accentable but are not in fact given any salience. Fourth, there are weak unaccented syllables, those which are not generally accentable. This section elaborates on the nature of this model and the reasons for using it.

Early studies of verse rhythm in recitation used the model of prominence given in Trager and Smith (1951), which postulated four significant degrees of prosodic prominence for syllables, primary, secondary, tertiary and weak stress (see 2.2.1). These degrees of prominence were supposed to be produced by speakers' use of four distinctive degrees of loudness.

This view of loudness as the sole cue to prominence is now discredited; our view of prominence now is of a complex of features, pitch , length and loudness, which may be used to differing degrees in each individual case. Fry (1958) conducted a series of experiments on the perception of prominence in which - using synthesised speech - he systematically varied fundamental frequency (F0), duration and intensity (the acoustic cues to, respectively, pitch, length and loudness) then compared listeners' judgments of which was the prominent syllable. Fry found that, while duration could influence perception of stress, F0 did so more decisively. He considered F0 peaks in sentence intonation an overriding cue to prominence. Local intensity peaks also affected listeners' judgments but intensity alone never produced universal agreement as to the stress pattern. In short F0 was a more important cue than duration, and duration in its turn was more important than intensity.

In a similar experiment, Bolinger (1958) concluded that pitch prominence has primacy over intensity as a cue to sentence accent; he actually went so far as to suggest that intensity is virtually irrelevant as a cue to prominence. It was in this study that Bolinger made his well-known definition of pitch prominence: 'a rapid and relatively wide departure from a smooth or undulating contour' (1958:112). Chatman (1965) adopted Bolinger's theory of pitch accent in preference to the Trager and Smith model in his later work on poetic rhythm in recitation.

The studies of Fry and Bolinger at any rate made clear that a complex of greater pitch prominence, length and loudness is associated with syllables perceived as prominent, and any or all of them may bear on perception; in any given instance some of the features are likely to be redundant to some extent. Common consent, however, is that, as Knowles (1974:119) states, 'The most important stressed syllables contrast in pitch with surrounding syllables, or bring a pitch movement about'. Pitch accent, then, is the main marker of salience; in this discussion *accent* will normally mean pitch accent.

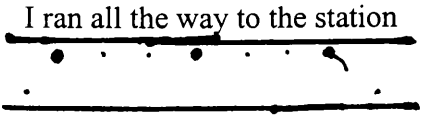
There is rather less clarity about the nature of syllables which are prominent but not accented. Crystal (1969) discusses the confusion which has surrounded definitions of 'stress', a term which in some discussions has included pitch accent among its referents, then sets up his own terminology, in which *accent* and *stress* are distinguished as follows:

> 'The accentual prominence of a syllable... is reducible to a "bundle" of phonetic features, the primary feature being a linguistically "marked" movement of pitch..., concomitant features being the presence of a degree of stress and any other prosodic or segmental factors (such as relative sonority of

> sounds, durational variation). If a syllable is not accented, it may achieve prominence (or be completely un-prominent) by its being uttered by one of a small number of linguistically contrastive degrees of *stress*. Stress is also reducible to a "bundle" of phonetic features..., and these are the same as those which underlie accent. The difference between stress and accent, then, is based on which of the attributes of sound is the perceptually most dominant feature of utterance: in the case of stress, the dominant perceptual component is loudness; in the case of accent, the dominant perceptual component is pitch.' (p.120)

In essence, according to Crystal, because an accented syllable can carry a degree of increased loudness it can also be stressed, but the two linguistic systems of pitch-accent and stress are in principle independent. Stress is later defined as 'Perceivable increase in loudness accompanied by unmarked pitch movement' (p.158).

Cruttenden (1986:21) uses a similar model. For Cruttenden *stress* means any kind of prosodic prominence, while *accent* means pitch accent. All accented syllables are therefore stressed but not all stressed syllables are accented. *Primary stress/accent* is 'the principal pitch prominence in the intonation group' that is, nuclear tone. *Secondary stress/accent* is 'a subsidiary pitch prominence in the intonation group'. But *tertiary stress* is 'a prominence produced principally by length and/or loudness'. For example in:



sta- , the nucleus, has primary accent and *ran* (which is the onset of the tone group) secondary accent, while *way*, which is not pitch prominent, has tertiary stress.

Syllables which are not pitch prominent are unaccented by definition. But to regard syllables which are salient but not pitch prominent as having their salience 'produced principally by length and/or loudness' seems an explanation reached by default along the following lines: salient syllables are associated with a complex of pitch obtrusion, length and loudness; the syllables in question are not pitch prominent; therefore their salience is cued by 'length and/or loudness'.

Knowles (1974:120) distinguishes between pitch accent and what he calls 'the rhythmical beat.' Yet, while accent is marked by pitch prominence, 'It is difficult to find anything beyond vague "loudness" corresponding to the rhythmical beat. A beat can be measured from an amplitude peak on a spectrogram, but there are of course many other amplitude peaks which have nothing to do with beats.' Since amplitude is the acoustic correlate of loudness, thus far beat seems to correspond to Crystal's *stress* and Cruttenden's *tertiary stress*. However, the fact that amplitude peaks need not be associated with beats means that beats cannot be defined simply as the perceptual concomitants of amplitude peaks.

Moreover, the scope of the rhythmical beat ranges beyond syllables which are normally accentable. As Knowles observes (p.121): 'it is not at all uncommon for beat to fall on an unstressed and reduced syllable, e.g.

/ˈmænʧɪ.stə ˈwestmɪn.stə/ "Manchester, Westminster" or

/ˌat ðəˈmaʊmənt/ "at the moment".'

The beat may also be marked by some pitch obtrusion, but insufficient to cue accent. Several writers have recognised this phenomenon. Chatman (1965:182) speaks of 'pitch obtrusions which are allophonic' as being able to signal metrical ictus in a line of verse; such obtrusions are contrasted with 'accentual' obtrusions, which fulfil this function more readily. Bolinger (1986:127) states that 'it is not purely a question of deaccenting, but is to some degree a question of the *relative height* of the accents'; he then gives examples of 'slight bumps on the landscape alternating with a prairie-like flatness', including:

> What are you doing there? - I'm putting away some of the JUNK that's been 'lying a'round since last 'January.

where such prominences occur regularly in the nuclear tail (the underlined portion). Knowles (1987:126) states the principle as follows: 'Accent suppression is not all-or-none; it is a process that can apply in a greater or lesser degree.' Finally Wichmann (1987:28), surveying tone choice in the Spoken English Corpus, treats the level tone (accented by definition) and dot (stressed, but unaccented, syllable) as a single phenomenon for statistical purposes on the grounds that they 'are possibly the same phenomenon seen at different points on a sliding scale, and the transcriber's decision to mark one or the other might depend, for example, on the speed of delivery, or simply be arbitrary.'

Strong but unprominent syllables are those which are accentable but have no prominence in practice. Knowles (1974:120) gives the example of the underlined words in:

/ George says it's a ' load of old \ nonsense

where accents and beats fall as shown, but *says* and *old* do not have the prominence they potentially could have had; though not accented they are inherently accentable - they always form the peaks of accent groups. Finally, weak unprominent syllables are not normally accentable. They are the clitic elements of accent groups, and many of them are likely to be pronounced with reduced vowels.

This model incorporates Crystal's *stress* and Cruttenden's *tertiary stress*: the equivalent of these is a strong syllable which takes a rhythmical beat, and is usually accompanied by an amplitude peak. The rhythmical beat may, then, be a reduced accent, a prominence cued only by length and/or loudness, or it may not have any cues to salience at all. This last phenomenon is one we should particularly bear in mind when examining metrical verse, where metrical set can cause perception of a beat even if the syllable in question has no phenomenal prominence. The realisation of a beat on a weak syllable is the phenomenon Attridge calls *promotion* (see 3.2); while Chatman (1965:121), after examining the metrical patterns perceived by listeners to multiple recitations of Shakespeare's eighteenth sonnet, observes: 'Since some syllables are perceived as ictic which possess neither stress nor accent, we must conclude that extraphonemic features may be used to mark ictus... like the metrical "set",... the running disposition of ictus and non-ictus established by preceding sequences, particularly where these were linguistically unequivocal.'

9.2 Linguistic models of accentual patterning

In producing connected speech we connect together accented and unnaccented syllables and form them into patterns; these patterns must be gradually built up as we string syllables together. There are two ways in which we can view this production of accentual patterns. One, which we can call an additive model, would see us as starting with a blank slate, deciding which of the syllables we use we wish to accent then building up our pattern of accents from zero. Alternatively we can use a subtractive model, according to which we can see all accentable syllables as being accented by default; producing the more varied patterns of actual speech is then a matter of subtracting from 100%, of removing accents from syllables which potentially could have had them. The additive model postulates a process of accentuation; the subtractive model one of deaccentuation.

Many studies of accent placement imply an additive model. Bolinger (1972), for example, argues for the major focus of information in an utterance as being the main cue to accent placement, against the view of the generative phonologists that accent placement is determined by syntax. Similarly, Ladd (1980) argues that accent is normally placed in such a way as to give the broadest possible focus of information to the utterance; this norm is only departed from if some marked narrowing of focus is desired. For example

John painted the SHED yesterday

could answer many possible questions, general or specific, among them *What's new? What did John do? What did John paint yesterday?* But

JOHN painted the shed yesterday

could only answer the question *Who painted the shed yesterday?* - the focus is thus narrowed from the whole sentence to *John* (1980:74). Breadth of focus gives us an unmarked accentuation. The principle of accent placement according to Ladd is: place the sentence accent on the rightmost accentable item of the focus constituent; if the focus constituent is the whole sentence then the result is unmarked accentuation (p.77).

A model of this kind implies that a decision is made to place accent in one place rather than another; the question is 'where does the accent go? Now considerations of the kind discussed by Ladd are not incompatible with a subtractive model: as Couper-Kuhlen (1986:45) points out:

> 'In certain trivial respects, of course, the principles of accenting and de-accenting are complementary. If, for instance, we take one accenting rule to be that the accent falls somewhere within the information focus formed by "new" material, the corresponding de-accenting rule will state that the accent may not be placed on "given" material in the utterance'

There are however non-trivial reasons for preferring a subtractive model, which are as follows:

1) The existence of citation forms. When a word is pronounced in its citation form it is given an accentual pattern that reflects its lexical stress pattern: primary stress is

given a nuclear accent and secondary stress a non-nuclear accent or a beat; words such as articles, pronouns, monosyllabic prepositions, which in connected speech are normally unaccented and reduced are not so in their citation forms but are given an accent like any other words. All this suggests that we store words mentally with their lexical stress patterns. When words are selected for use in connected speech, if we want to accent them we have an accent supplied; if we do not wish to use this accent we can suppress it. An additive model has to assume that when citation forms are used they have to be 'specially' accented even though the resultant accentual pattern reflects a stress pattern to be found in the dictionary as an inherent property of the word.

2) As Bolinger (1986:99) points out:

> 'When a speaker utters a word at *any* position in a sentence, are we not to assume that it carries sufficient weight to be accented? Otherwise, why say it? A neutral sentence then would be one in which *all* words, or at least all content words, carry an accent, and a non-neutral or marked sentence would be one in which one or more words have been deaccented.'

Another way of looking at this is to say that, unless a markedly narrow information focus is required, any accentable syllable *could* be accented without doing violence to the meaning, even if the result sounds unidiomatic. Ladd's example of a neutral sentence, for example, could be rendered

JOHN PAINTed the SHED YESterday

On the other hand, in a neutral sentence any of these accents except that on *shed* could be omitted. According to the additive model, if these accents are present then the

extra effort of accentuation is being made where there is no communicative need to make it; according to the subtractive model accentuation is the state of affairs which can be departed from by *relaxing* effort where it is unnecessary.

3) Ladd himself allows deaccentuation as a motivating force behind accentual patterns in some cases:

> A: Has John read Slaughterhouse Five?
>
> B: No John doesn't READ books
>
> (Ladd 1980:81)

If B's utterance had been produced as a 'neutral sentence' the accent would almost certainly have been on *books*; accenting *read* narrows the focus in a way which has traditionally been described as contrastive stress. But, Ladd asks, what does *read* contrast with? There is no candidate for such an implied antithesis. A better explanation, Ladd believes, is to say that *book*, being given information - both participants know that *Slaughterhouse five* is a book - is *de*accented, and accent falls on *read* by default.

This is fine as far as it goes but it is surely unnecessary to treat contexts like this one as a special case. It seems wasteful to postulate a model of speech production that essentially adds together and collates accents, but at the margins, for a handful of purposes, takes them away. If we assume that, in producing connected speech, we concatenate the citation forms of the words we require then *remove* accents as necessary to produce a pattern which meets our idiomatic and communicative needs,

then this can meet the requirements of all speech, subsuming examples such as that above: the choice of whether to accent *read* or *books* is then always a choice of which of two words to deaccent: *books* in the above example (with *read* then retaining its accent); *read* in the case of the 'neutral sentence'.

In this work, then, I adopt the subtractive model. In chapters 10, 11 and 12 I investigate which syllables in recited verse lose their default accents and why, and what this tells us about the relative contributions of speech rhythm and metre to the rhythmic 'texture' of the verse in Fowler's term. The next section sets out some areas of investigation.

9.3 Accent loss

9.3.1 Accent loss in general

The general preference for the additive model of accentual patterning means that deaccentuation is very often discussed only in the context of marked cases: cases, that is, of syllables which, if we were contemplating out of context the sentences in which they occur, we would normally expect to be accented, but which in their actual occurrence in speech are not accented, because of some particular communicative intent on the part of the speaker.

Bolinger (1986:112ff) for example, lists causes of deaccentuation in speech, which include for example (the underscored parts are those we might expect to be accented but are not):

'Meanings already implied in the context...

Why don't you like fluorescent lamps? - The HUM annoys me.

(Annoyance is expected in the context of not liking.)

'Meanings sacrificed to a nearby focal meaning...

Look at Sandy! Her PAWS are even dry.

(Surprise at the paws overrides the evidence of dryness.)'

Now Bolinger recognises that

> 'in nearly all of the examples cited [the deaccented item] has come at the end of the utterance... This biased attention is a shortcoming of most studies of deaccenting: the deaccent position that is most often discussed is the "post-nuclear" one, the one directly after the final accent in the utterance.' (p.122)

He proceeds to discuss pre-nuclear deaccentuation, but his discussion of this is likewise a discussion of deaccentuation made for specific, intentional communicative reasons, for example:

> '...unless you enter at mid-year. In THAT case you have to WAIT a semester to CATCH UP
>
> '*semester* can be deaccented because academic time is so often expressed in semesters; the important thing is the waiting.' (p.123)

With a subtractive model there is much more scope for deaccentuation - anything accentable but not accented is deaccented. In particular there are three phenomena whose occurrence in our data is worth investigating.

First, as Knowles (1987:124) observes, *any* accentable syllable is susceptible to deaccentuation if it occurs between the onset and nucleus of a tone group;

deaccentuation can occur more or less at random. This tendency Knowles calls the *intermediate accent rule.*

For example the following occurred in a published interview:

I first started picking winners...

(Interview with John Bowe, *Radio Times* 2-8 September 1995)

If this were to be spoken, as a single tone group with its onset on *first* and its nucleus on *win-* then the accents which by default occur on *start-* and *pick-* would be susceptible to suppression, simply because of their position between onset and nucleus, although this need not happen.

Second, there are some words which are inherently likely to be deaccented regardless of the position or other context they occur in, although unlike weak syllables they remain accentable without normally needing a special context to be accented: although they are highly deaccentable they are not deaccented by default. One example is polysyllabic function words such as the prepositions *into* and *before*, and pronouns such as *myself*: they are likely to lose accentuation on their stressed syllables, although these syllables do not, as monosyllabic function words do, form the clitic elements of accent groups. Yet when deaccented they can, like their monosyllabic counterparts, realise the prehead of a nucleus group: note the similarity in performance of

on the FLOOR and [in]to the ROOM

Other classes of word inherently susceptible to deaccentuation include the more marginal members of the category of content words, for example adverbs such as *here* and *there*; and determiners which are not articles, such as *all*. Deaccentuation of (the stressed syllables of) words which are inherently susceptible to deaccentuation I call *lexical deaccentuation*.

Third, there is a kind of deaccentuation cued by grammatical or semantic context which is different from the kinds identified by Bolinger. His examples are ones cued by the communicative context of a particular message; we have to see the example to understand the context. But there are contexts which can be specified in general terms which always exert some pressure to deaccent. Perhaps the prototypical example of this is the way premodifying adjectives can easily be deaccented because the main focus falls on the noun. In Keats's

Bright star! Would I were steadfast as thou art

Bright would be susceptible to deaccentuation for this reason even if it were not also metrically in remiss; the nucleus is most likely to fall on *star* (and the adjective is in any case substantially redundant).

We have, then, apart from deaccentuation made for specific communicative effect, three types of deaccentuation, deaccentuation through the operation of the intermediate accent rule; lexical deaccentuation; and deaccentuation cued by syntactic context. These three types are not mutually exclusive: for example a premodifier may lie (and may be likely to lie) between onset and nucleus, and so susceptible to

deaccentuation by the intermediate accent rule and because of its syntactic context; and a polysyllabic preposition (inherently deaccentable) may occur immediately before a noun which carries the greater information load (syntactic context).

9.3.2 Metre

The above phenomena can be investigated in all types of verse. But in metrical verse such as the Keats sonnet in our data, we must investigate the effects of metre on accentual patterns: metre, it is reasonable to guess, may affect the susceptibility of words to deaccentuation.

Metre is an underlying rhythmic structure whose relentless alternation between strong and weak pulses is always present in the mind in varying strength, and which is a potential confounder of the normal rules of deaccentuation: metrical set exerts pressure on the reader to accent all ictic syllables and to refrain from accenting all those in remiss, regardless of context. A strong syllable in a piece of metrical verse which in a recitation occurs between onset and nucleus is presumably less likely to have the intermediate accent rule apply to it if it is ictic than if it is in remiss. If the opening of the hymn:

The church's one foundation

were recited as spoken verse we might expect that, simply because *one* is ictic, it would retain its accent even though it occurs between two other accentable syllables,

church and *found-*, which are likely to form the onset and nucleus respectively of a tone group. On the other hand, in the opening line of Yeats's *Leda and the Swan*:

A sudden blow: the great wings beating still

If the second half of the line, *the great wings beating still*, were recited as a single tone group with onset on *great* and nucleus on *still* (though there are other possibilities), *wings*, in remiss, would probably be more susceptible to deaccentuation by the intermediate accent rule because of its metrical position (*beat-*, being ictic might well be more resistant).

Similarly, in metrical verse, lexical deaccentuations, may be less likely to occur if the syllable in question is ictic:

I leant upon a coppice gate

(Thomas Hardy: *The darkling thrush*)

A preposition like *upon* is especially likely to be deaccented, other things being equal; in ordinary speech this is one of the most likely contexts for the modification of the speech-rhythm default. But here *-pon* is an ictic syllable in a piece of metrical verse: not only the speech-rhythm default but also the metrical default cues accentuation. This may make *upon* less susceptible to deaccentuation in performance.

Whether this pressure exerted by the metre affects the accentual pattern which is actually produced is another matter, and depends not only on which of speech rhythm and metre exerts the stronger influence on the reader's mind, but on what kind of

influence is exerted. We have seen that the default pattern for speech rhythm is to accent the strong syllables and to deaccent the weak ones (7.1.1.1). Context modifies this pattern in practice. In verse metre is another kind of context within which the speech rhythm must operate, and like the communicative context of the message it can modify the default accentual pattern of the rhythm.

However, since the metre itself has a default accentual pattern by which all ictic syllables are accented and all remiss syllables are deaccented (7.1.1.2), we can alternatively see this as the default accentual pattern for metrical verse, and speech rhythm as a context which modifies it. This has been the traditional view of the structure of verse rhythm: that metre is a rigid pattern which remains the same throughout any verse which is composed in it, while the speech rhythm is more variable, being dependent on the words used in the text and modifies the metre in such a way that the rhythm of the verse is saved from monotony while preserving some kind of unity.

This modification of the metre is of two kinds. One kind is where the arrangement of syllables is such that the default accentual patterns of speech-rhythm and metre clash. However, even where the speech-rhythm default and the metrical default are not in conflict, performance need not reflect either of them absolutely:

My mistress' eyes are nothing like the sun

(Shakespeare: Sonnet 130)

In this line all and only the strong syllables - *mis-, eyes, no-, like, sun* - are ictic. Speech-rhythm and metrical defaults are identical. But in performance some

deaccentuation of strong syllables may well occur. For example if the line is recited with two tone groups divided at *eyes*, then in the second tone group the onset would most readily fall on *no-* and the nucleus on *sun*. If this happened then *like* would be susceptible to deaccentuation under the intermediate accent rule - and might be especially susceptible to it, having by comparison with *nothing* and *sun* a low information load. Alternatively *no-* might be deaccented and *like* not be; the argument for this would be that *nothing like* is a common collocation which has a small-scale internal end-focus of its own, falling on *like*. Or it may be that, with both default patterns in agreement, the combined influence of these is so great that deaccentuation of strong syllables does not take place at all.

There are also cases where the metrical and speech-rhythm defaults conflict and where there is scope for a performer to produce a pattern which does not conform to either of them:

They that have power to hurt and will do none

(Shakespeare: Sonnet 94)

In the last three syllables of this line the metrical default, accenting only the ictic syllables, would give the pattern WILL do NONE. The speech-rhythm default, on the other hand, would deaccent the auxiliary verb *will* and accent *do* - used here in its lexical-verb sense of 'perform', 'carry out' - and *none*: will DO NONE. Either default pattern is possible in performance, but in context there is also a third possibility: will DO none. The motivation for the deaccentuation of *none* is that it is coreferential with *power to hurt* that is, it is given information. Three cues to deaccentuation are present, and any of them could be decisive in performance.

The degree of influence on vulnerability may also vary in cases of what is traditionally called foot-reversal, where a weak ictic syllable is followed by a strong syllable in remiss, or vice versa. There is then, except in lexical reversals (see 7.1.2), a conflict between rhythm and metre. Which is the stronger influence, however, varies from case to case. There is an implicational scale of probability that reversal will be marked by the accentual pattern in performance. There are cases which are only doubtfully reversals at all:

If you have tears, prepare to shed them now

(Shakespeare: *Julius Caesar*)

In reciting this line should we accent *If* and deaccent *you* or the other way round? The two renditions are equally acceptable, but only the first would constitute a reversal; the second would conform to the metrical default. (The speech-rhythm default is equivocal here; in normal speech either *If* or *you* could be deaccented in a context like this.) Reversal in such a case is a pure performance feature. Then there are cases where the two default patterns clearly conflict, and where recitation according to the metrical default would sound unusual from the point of view of ordinary speech, but in the context of metrical verse would not be impossible:

I think it's time now for a little shop

(W. H. Auden: *Letter to Lord Byron*)

The speech-rhythm default would be to accent *now* and to deaccent *for*; but it is quite possible to deaccent *now*, and while accenting *for* might well sound forced, it would not be so to give it a beat, (which can co-exist with vowel reduction); thus a rendition

reflecting the metre is certainly possible. Then there are cases in which, although they are not lexical reversals (where the probability of reversal is 100%) it would be very odd to accent according to the metrical default:

I walk through the long schoolroom questioning

(W. B. Yeats: *Among school children*)

The metrical default pattern would be to accent *the* and to deaccent *long*; but it would be a grotesque kind of incompetence actually to do this. The speech-rhythm default dictates the opposite pattern, and will almost certainly be followed.

Another possible modification by metre to a syllable's susceptibility to deaccentuation can be found in cases of promotion. What we have here is a potential restraint on the normal deaccentuation of function words and lexically unstressed syllables when they occur in ictic position. Even outside metrical verse weak syllables, normally deaccented, can retain an accent for some purposes. These include contrast:

YOU may be able to. *I* can't.

or the mannerism, heard especially in public announcements, of accenting prepositions, as in the following attested example:

We apologise for the late running OF the train...

In metrical verse, in contexts given by Attridge for promotion, weak syllables occur in ictic position. Attridge (1982:171) states that 'promoted... syllables do not demand special pronunciation; rhythm is a matter of perception, and it is possible to perceive a

syllable as both light and yet playing the part of a beat'; but it is nonetheless possible that the usual deaccentuation of weak syllables will not always occur in the performance of promotions; and that even if they do not retain an accent they may retain a beat - the latter would be a possibility even for lexically unstressed syllables.

9.4 The investigation of accentual patterns in the present data

In the next three chapters I examine the accentual patterns in our corpus of recitations, guided by the model of accentual patterning set out in this chapter. In particular I examine accent loss under the influence of:

communicative context;

the intermeditate accent rule;

lexical deaccentuation;

and accent loss, and unwonted accentuation, under the various kinds of influence that metre exerts.

Chapter 10

Patterns of accentuation in the recitations (1): strong and strong ictic syllables

The models of rhythmic grouping, prosodic prominence and of susceptibility to deaccentuation set out in the previous two chapters are now used to investigate the accentual patterns in actual recitations, the recitations of the two poems introduced in chapter 6. In what follows the Keats data is subdivided not only into strong and weak syllables but into ictus and remiss syllables, giving four types of syllable classified by the pressure to accent or deaccent exerted on them by the default patterns. Since the MacNeice does not have a metre based on beats its data is divided only into strong and weak syllables. Throughout, the structure of nucleus groups is used as a context to discuss accentual patterns. In this chapter and in chapter 11 I examine the accentual patterns of strong ictic syllables (Keats) and strong syllables (MacNeice). This chapter deals with all syllables of these types except for the lexical deaccentuations (as defined in 9.3.1); chapter 11 gives separate treatment to lexical deaccentuation. Chapter 12 examines the remaining types of syllables: weak ictic, strong remiss and strong ictic syllables; it also examines metrical reversal in the Keats, and weak syllables in the MacNeice.

10.1 The overall picture

Both poems are recited with accented strong syllables and unaccented weak syllables in most cases (see tables 1-9): the incidence of deaccentuation of strong syllables is 20.5% for Keats and 22.9% for MacNeice. These proportions do not differ significantly ($p>0.05$). This suggests that the presence of a conventional metre in the Keats has affected performance little as regards accentuation; that the metre does not impose an artificially 'metrical' accentual pattern overall. But if we look at the data in more detail we can find differences between the poems, in the ways deaccentuation has affected them.

In the first place there is a significant difference between the poems in the manner of deaccentuation. When strong ictic syllables in the Keats are deaccented, the syllables in question usually retain a beat; when strong syllables in the MacNeice are deaccented, the syllables in question are more likely to lose all prominence. If we look at deaccented readings of all strong/strong ictic syllables in both poems and compare the degree of deaccentuation we get the following figures:

	Keats	**MacNeice**
Beat	72 (56.7%)	55 (31.3%)
Unprominent	55 (43.3%)	121 (68.7%)
Total	**127**	**176**

This is a highly significant difference ($p<0.001$), which is likely to be caused by the pressure in metrical verse to maintain some prominence as a residual representation of

the metrical strong point even when other pressures tend to cue deaccentuation. Insofar as deaccentuation can be seen as conversational style creeping into recitation, a symbol of a desire to get away from a stereotypical 'performance', or 'reading for the metre', then it seems that in metrical verse this desire is manifested in the *fact* of deaccentuation, but the metre remains in the recitation in the shape of the particular *form* of deaccentuation.

10.2 Accentual patterns of strong/strong ictic syllables

The distribution of nucleus groups in the Keats readings is shown in Table 1, and for the MacNeice readings in Table 3; figures for the incidence of accentuation and deaccentuation in strong ictic syllables in the Keats readings are shown in Table 2, and for strong syllables in the MacNeice readings in Table 4. In Tables 1 and 3 the end of a nucleus group is indicated by an oblique stroke, and an ambiguous boundary by a capital A in the readers' columns. The columns are read downwards. Each nucleus group spans the sequence of text from immediately after one boundary mark to the end of the text printed opposite the next. For example, in Table 1, Reader 1's first group is *Read me a lesson*, while Reader 2's first group is *Read me a lesson, Muse*. Tables 2 and 4 simply show for each monosyllabic word and stressed syllable(s) of each polysyllabic word the number of readers who, respectively, make a pitch accent, make a rhythmic beat and deaccent the syllable completely. In all four tables an oblique stroke following a word in the **Text** column indicates that a line boundary follows it; in Tables 2 and 4 a double oblique stroke indicates a stanza boundary.

The speech-rhythm default is to accent strong syllables (see 7.1.1.1), and the metrical default is to accent ictic ones. Strong ictic syllables therefore have normative pressure from two sides to be accented. In this investigation of the accentual patterns for strong ictic syllables in the Keats and strong syllables in the MacNeice I attempt to identify varieties of variation from the default pattern, and possible reasons for them.

10.2.1 Keats

10.2.1.1 Rhythmic grouping

In the Keats recitations nucleus groups are almost always coterminous with lines. Only three line boundaries, *loud/ Upon, shroud/ Vaporous* and *spread/ Before* do not always coincide with nucleus group boundaries. These are syntactically the strongest run-ons, and of these only at the strongest of all, *shroud/ Vaporous*, which divides a head noun from a postmodifying adjective, do a majority of readers carry a nucleus group across the line boundary. Nucleus groups are, however, prosodic exponents of the poem's syntactic and semantic structure. The progression of nucleus groups of varying lengths cuts across the metre, providing an alternative set of groupings to the metrical organisation of beats and offbeats grouped into lines. Each nucleus group has a trajectory from onset to nucleus which counteracts the more measured metrical pulse. It can also, by dividing lines into more than one nucleus group, counteract the sense of the line's integrity, even where line and nucleus group *boundaries* coincide.

Nucleus groups, in short, divide up the line irregularly in the context of a regular metre. Onset and nucleus initiate and complete a rhythmic grouping of syllables; line-

Table 1 - Keats: nucleus groups

Reader:	1	2	3	4	5	6	7	8	9
Read me a lesson,	/		/	/		/	/		/
Muse,	/	/	/	/	/	/	/	/	/
and speak it loud/	/	/	A	/	/	/		/	/
Upon the top of Nevis,	/	/	/	/	/	/	/	/	/
blind	/		A			/			
in mist!/	/	/	/	/	/	/	/	/	/
I look	A								
into the chasms,	/	/	/	/	/	/	/	/	/
and a shroud/					/				
Vaporous	/	/	/	/		/	/	/	/
doth hide them;	/	/	/	/	/	/	/	/	/
just		A							
so much		/	A	/		/			
I wist/	/	/	/	/	/	/	/	/	/
Mankind	/	A	/	A		/			/
do know of Hell.	/	/	/	/	/	/	/	/	/
I look				A					
o'erhead./	/	/	/	/	/	/	/	/	/
And there	/		/						
is sullen mist;	/	/	/	/	/	/	/	/	/
even so much/	/	/	/	/	/	/	/	/	/
Mankind	A		/	A		/			/
can tell						/	A		
of Heaven.	/	/	/	/	/	/	/	/	/
Mist			/				A		
is spread/		/	/	/	/	/	/		A
Before the earth,	/	/	/	/	/	/	/	/	/
beneath me -	/	/	/	/	/	/	/	/	/
even such./	/	/	/	/	/	/	/	/	/
Even so									/
vague	/	/	/	/	/	/	/	/	A
is man's sight		/			/	/			
of himself./	/	/	/	/	/	/	/	/	/
Here			A	/		/			
are the craggy stones	/		/	/	/	/	A	/	/
beneath my feet -/	/	/	/	/	/	/	/	/	/
Thus much			/						
I know,	/	/	/	/	/	/	/	/	/
that,	/	/	/	/		/		/	/
a poor witless elf,/	/	/	/	/	/	/	/	/	/
I tread on them,	/	/	/	/	/	/	/	/	/
that all		A							
my eye	/	A		A	A	/	A		
doth meet/	/	/	/	/	/	/	/	/	/
Is mist		/		/		A	/		
and crag,	/	/	/	/	/	/	/	/	/
not only on this height,/	/	/	/	/	/	/	/	/	/
But in the world	/					/			A
of thought	/	/	/	/	/	/	/	/	/
and mental might.	/	/	/	/	/	/	/	/	/

opening and line-end initiate and complete a metrical grouping of syllables. While the first ictus in a line is likely in recitation to be an onset, and the last ictus in a line is likely to be a nucleus, there are likely also to be onsets and nuclei in the middles of lines, initiations and completions which superimpose their structure on that of the metre. Nucleus groups are the context in which the accentual patterns of performance are formed. The accentual patterns, then, contribute to the sense of rhythmic trajectory within the nucleus group, and to the sense of the words of the poem moving in and out of phase with the metre.

10.2.1.2 Accentual patterns of strong ictic syllables (excluding lexical deaccentuations)

Apart from the lexical deaccentuations, the words, or their stressed syllables, which are deaccented by most readers are ones occurring in the middle of a major syntactic constituent consisting of a regularly alternating sequence of strong and weak syllables; where, that is, the metrical set is most strongly preserved as a result of the speech-rhythm default being in harmony with it. These sequences are somewhere close to the length of a line, whether or not they are actually co-extensive with a single line. In such sequences, then, regular alternation between strong and weak pulses exists; and it is sustained for an appreciable time. There are four words (other than lexical deaccentuations) which are deaccented by the highest numbers of readers - six, seven

Table 2 - Keats: accentuation of strong ictic syllables

Text	Accent	Beat	Unprominent
lesson	9	0	0
Muse	9	0	0
speak	8	1	0
loud/	9	0	0
Upon	5	3	1
top	2	7	0
Nevis	9	0	0
blind	9	0	0
mist/	9	0	0
look (line 3)	9	0	0
into	0	0	9
chasms	9	0	0
shroud/	9	0	0
Vaporous	9	0	0
hide	9	0	0
just	8	1	0
much (line 4)	6	3	0
wist/	9	0	0
(Man)kind (line 5)	8	1	0
know (line 5)	1	8	0
Hell	9	0	0
look (line 5)	9	0	0
(o'er)head/	9	0	0
sullen	6	3	0
mist	9	0	0
even (line 6)	9	0	0
much (line 6)/	9	0	0
(Man)kind (line 7)	8	1	0
tell	3	5	1
Heaven	9	0	0
Mist (line 7)	7	2	0
spread/	8	1	0
Before	5	3	1
earth	8	1	0
beneath (line 8)	9	0	0
even (line 8)	8	1	0
such/	7	2	0
Even (line 9)	8	1	0
vague	9	0	0
man's	4	4	1
himself/	8	1	0
craggy	3	6	0
stones	9	0	0

beneath (line 10)	2	7	0
feet/	9	0	0
much (line11)	1	0	8
know (line 11)	9	0	0
witless	8	0	1
elf/	9	0	0
tread	9	0	0
all	7	2	0
eye	9	0	0
meet/	9	0	0
mist (line13)	8	1	0
crag	9	0	0
only	7	1	1
height/	9	0	0
world	9	0	0
thought	9	0	0
mental	7	2	0
might	8	1	0

or eight out of the nine - and all occur in metrically regular sequences which either consist entirely of alternating strong and weak syllables, or which deviate only to the extent of an inversion at the beginning (*even, Here are*), Attridge (1982:205) appears to regard line-initial inversion as the least powerful type of deviation of speech rhythm from the metre; the syntactic integrity of the sequences we have in our data allows the inversion that is not *line*-initial but is clause-initial, *even*, to be similarly benign in its effect. The words concerned are the following (the metrically regular sequence they occur in is given in brackets):

top (Upon the top of Nevis, blind in mist!)

know (just so much I wist/ Mankind do know of Hell.)

tell (even so much/ Mankind can tell of Heaven.)

craggy (Here are the craggy stones beneath my feet.)

One other example which exists in a similar context is *spread*: (Mist is spread/Before the earth, beneath me). This is deaccented by only one reader. But *spread* occurs at a line boundary, most readers ending a nucleus group here, with *spread* as the nucleus - apparently to mark the line boundary, as with the lexical deaccentuation *much* in line 6, (discussed in 11.1). Three readers do not end a nucleus group here, though; and one of those three is Reader 1, the sole deaccenter of *spread*. This suggests that the high incidence of deaccentuation in the other four metrically regular sequences might well be exhibited here were it not for the fact that the deaccentable syllable occurs immediately before a line boundary.

Let us now examine more closely the contexts of the four cases with the highest incidence of deaccentuation.

Upon the top of Nevis is rendered as a single nucleus group by all but two readers (one other separating it from what precedes it by an ambiguous boundary). Consequently *top* might appear to be deaccented by virtue of coming between an onset on *Upon* and nucleus on *Nevis*. And in fact four readers do have this pattern. Since *Upon* begins the line as well as a nucleus group, rhythmic phrasing in these cases, by not running across a line boundary, is congruent with the metre; and the accentual patterns are as close as possible to the metrical default except for the deaccentuation of *top*. But the other three who deaccent *top* also deaccent *Upon*; these three, Readers 1, 3 and 4, all have a nucleus group boundary after *loud* (though in Reader 3's case an ambiguous one), so that by the time *top* is reached no onset has taken place. Performance in these cases is at one further remove from the metrical default, but since the two default patterns are in harmony it is likely that the metrical set is largely

preserved for these readers as well, even though their deaccentuation of two strong syllables gives them a more powerful forward trajectory to the nucleus.

Reader 7 makes no boundary after *loud* - she makes *and SPEAK it LOUD/ U[pon] the TOP of NEvis* a single nucleus group. She deaccents *Upon* (though not *top*); the intermediate accent rule clearly operates here. For Reader 3 (who has an ambiguous boundary after *loud*) the status of *loud* as nucleus is unclear, but it has enough onset-like properties - it is jumped up to, and of the discontinuity features it has only final lengthening - for it to be plausible that, even if *loud* does end a nucleus group, it also projects forward rhythmically to the undisputed nucleus on *Nevis*.

This same mixture of contexts exists for the other three cases with a high incidence of deaccentuation. Of the eight readers who deaccent *know*, two - Readers 5 and 8 - render *ManKIND do [know] of HELL* as a single nucleus group, with onset on *-kind* (marking the line opening) and nucleus on *Hell*; their deaccentuations of *know* therefore are owing to the intermediate accent rule. Readers 2 and 4 have ambiguous nucleus group boundaries after *Mankind*, and Readers 1, 3, 6 and 9 have clearer-cut boundaries, with nucleus on *-kind*: *ManKIND | do [know] of HELL*. The effect of this is to retard slightly the progress of the underlying metrical pulse; all those with boundaries, except for Reader 2, have some lengthening of *-kind*. This is a somewhat stereotypical 'expressive' feature which because it retards the pulse can be regarded as an aspect of the variation of metre by the prosody of performance. (Reader 7, though not having a boundary after *Mankind*, does not deaccent *know*). Throughout the sequence *just so much I wist/Mankind do know of Hell* metrical regularity is preserved even if only in residual form. But the nucleus group boundary made by all readers at

the line boundary at *wist* is another kind of metrical regularity; it articulates the lineal structure despite the enjambment at this point.

In *Mankind can tell of Heaven* we find a very similar mix of patterns, as might be expected given the verbal parallelism between *Mankind do know of Hell* and *Mankind can tell of Heaven*. The six deaccenters of *tell* divide into three clear cases of the intermediate accent rule (onset on *Mankind* and nucleus on *Heaven*); two with an ambiguous boundary after *Mankind*; and one with a full boundary. All readers, whether deaccenters of *tell* or not, end a nucleus group after *much*, marking the line boundary despite the enjambment, as they do for *wist*.

Here are the craggy stones between my feet is the sole example of, as it were, a self-contained line: a line which contains a single sentence whose boundaries coincide with those of the line. It is this complete line, then, that is the metrically regular context in which *craggy* is deaccented. Three readers, Readers 2, 5 and 7, do not in fact deaccent it. Significantly, Reader 2 does not subdivide the line prosodically at all; she eschews the nucleus group boundary after *stones* that the majority have, and Reader 7 has only an ambiguous boundary here. Apart from the initial inversion *Here are*, all the ictic syllables in this line are accented by these two readers. This accentual pattern, and the fact that these readers render the line as an unbroken or near-unbroken prosodic sequence (both have the small discontinuity feature of a devoiced final fricative in *stones*), mean that the influence of the metre is at full strength for these readers - which is consistent with the harmony in this line between the metrical and speech rhythm defaults on the one hand and between the lineation and syntax on the other. Of the six readers who do deaccent *craggy* three, Readers 1, 8 and 9, have a

single nucleus group *Here are the craggy stones*, with onset on *Here* and nucleus on *stones*; they apply the intermediate accent rule to deaccent *craggy*. Of the other three, Readers 4 and 6 make *Here* a nucleus group in its own right (and hence a nucleus), and Reader 3 has an ambiguous boundary after *Here*; they use the same device of retarding the metrical pulse we observed some readers using in *Mankind*. The deaccented *craggy* then forms part of the prehead to the nucleus on *stones*.

That the highest incidence of deaccentuation is in contexts where there is a relatively long unbroken metrically regular sequence suggests that deaccentuation occurs in metrical verse where it is 'safest' for it to do so - where, that is, it can take place without threatening the metrical set, since enough regularity remains to preserve it. The notion of *variation* is relevant here: the *realisation* of the metre is varied, but remains a realisation of the metre, simply because the default patterns do not conflict, or because the deaccented syllable retains a beat. Except for Reader 1's total deaccentuation of *tell*, all these deaccentuations retain a beat - the salience of a beat will apparently 'carry' the ictus in performance, even though the metrical default pattern has been varied by the loss of full accentuation. Perhaps readers sense that some variation will avoid monotony in metrically regular sequences.

There are three words which are deaccented by a minority of readers, but by more than one: *sullen* (3 readers), *Mist* (line 7; 2 readers) and *mental* (2 readers).

sullen has the greatest variety of rhythmic contexts. Six readers accent the existential *there* at the beginning of the line (see the section on weak ictic syllables),

marking the line opening. Of these six, four also accent *sullen*: they give the clause a single nucleus group:

and THERE is SULlen MIST

whose accentual pattern reflects the metre absolutely. However, two of the six accenters of *there*, Readers 1 and 3, deaccent *sullen* (though it retains a beat); they also, alone of the accenters of *there*, give it a nuclear accent, placing *And there* in a group by itself, so that the deaccented *sullen* forms part of the prehead of the next nucleus group:

and THERE | is ['sull]en MIST

These readers mark the line opening (accent on *there*) but, by separating this from what follows, break somewhat the line's metrical cohesion, adding to this effect by the rapid trajectory to *mist* (the deaccentuation of *sullen*). The other deaccenter of *sullen*, Reader 2, also deaccents *there*, moving away from the metre in both cases, but retaining the vestige of it of a beat on both syllables. The two remaining readers, Readers 6 and 7, deaccent *there* completely but do not deaccent *sullen*:

and there is SULlen MIST

The line opening is not marked; and although the remaining accents in themselves conform to the metrical default the effect of the sequence as a whole is of a rush to the onset on *sullen* then another to the nucleus on *mist*; we do not at the beginning of the line feel the establishment of an alternation between beat and offbeat; it is the rhythmic grouping that is foregrounded. Paradoxically, though *sullen* is accented, it is in these examples that it seems least an exponent of the metre.

Mist in line 7 is accented by seven out of nine readers; six of these accent both *Mist* and *spread* and end the nucleus group at *spread*. This is a performance which does mainly represent the metre (*spread* was mentioned above as a word whose incidence of deaccentuation may be reduced because of its presence at a line boundary). The other three readers move away to varying degrees from this obeisance to the metrical default. Reader 1 deaccents *spread* and does not end the nucleus group at the line boundary:

MIST is ['spread]/ be[fore] the EARTH

The rhythmic trajectory carries across the line boundary, from the onset on *Mist* to the nucleus on *earth*, assisted by the deaccentuation of *spread* (which retains a beat) and *Before* (completely deaccented). The line end is damped and the opening of the following line unmarked; these lacunae allow the onset and nucleus to assume the role of an alternative 'opening' and 'ending' which counter the graphological ones. Readers 4 and 8 retain the accent on *spread* but deaccent *Mist*. For Reader 8 *Mist* is in the prehead and *spread* is onset:

['mist] is SPREAD/ be['fore] the EARTH

so that, even though it retains its accent, it is *spread* that launches the trajectory across the line boundary. Reader 4 equivocates in his marking of the metre and lineation:

['mist] is SPREAD/ | be['fore] the EARTH

although *Mist* is deaccented *spread* is a nucleus, so no rhythmic trajectory is launched immediately before the line boundary - although the only discontinuities there are

segmental ones. There is an acceleration of the rhythm - a moving away from the metrical beat - up to the line boundary, but the line boundary itself is marked.

All readers have *and mental might* as a separate nucleus group. The majority pattern is:

and MENtal MIGHT

which accords with the metre. But Readers 1 and 4 deaccent *mental*:

and ['men]tal MIGHT

so that the group has no head, *mental* being placed in the prehead. This seems to be no more than the subordination of a preceding adjective to its noun - a common enough prosodic phenomenon - and since these readers retain a beat and so some trace of the ictus, it seems no more than a momentary variation in what is after all a metrically regular line (the only deviation in the line is the promotion *in*, which is not always reflected in performance - see 12.2) with no major syntactic boundaries. In any case we are by this point approaching the end of the poem, where all tension relaxes. The deaccentuation of *mental* can be compared with that of *Mist* in line 7. The accentable syllables are in identical positions in the line, but *Mist* occurs immediately after a sentence boundary, and the line is run on. In this context the deaccentuation of *Mist* increases the tension between rhythm and metre even when *spread* at the line end is given a nuclear accent; whereas the deaccentuation of *mental* has very little effect on the tension between rhythm and metre.

Reader 2 deaccents not *mental* but *might*. *mental* in consequence takes the nucleus. This does give rise to more tension because we are deprived, at the end of the poem, with an unequivocal line end marker. The motive for this deaccentuation appears to be the desire to bring out a contrast: 'not only on *this* height, but also in the world of... *mental* [rather than physical] might'. The poem's discourse structure, in other words, wins over its metre and form (that is, the metrical set, lineation and any desire to bring out the rhyme). In view of the formal structures which are vested in the poem's last word it is not surprising that no other reader deaccents it, especially as the contrast of *this height* with *the world of thought* can deal with the matter first.

The remaining deaccentuations of strong ictic syllables, other than lexical deaccentuations, are words deaccented by only one reader.

speak is deaccented by Reader 4. This appears to be a chance occurrence: he follows the majority pattern of making *and speak it loud* a separate nucleus group, marking the line boundary with the nucleus on *loud*. He dissents from this pattern only to the extent of deaccenting *speak* - and he retains a beat on it; the metre is little disturbed. Reader 7 accents both *speak* and *loud* but has

and SPEAK it LOUD/ u['pon] the TOP of NEvis

as a single nucleus group. This is a more drastic variation of the metre than is Reader 4's deaccentuation of *speak*, since unlike the latter its effects are not isolated but affect rhythmic grouping and the prosodic marking of lineation. Reader 3 also accents both *speak* and *loud* and has an ambiguous boundary at *loud*: he has a step-up in pitch on

loud, and lengthens the syllable, but the step-up initiates a pattern of alternating steps up and down, binding *loud* to what follows it in the next line.

Reader 8 is the sole deaccenter of *just*. This in itself is only a momentary deviation from the default patterns, affecting only that syllable. Reader 8 has a nucleus group:

['just] so MUCH i WIST/

The four other readers who give this sequence a single nucleus group make *just* its onset; of these, three deaccent *much* (a lexical deaccentuation - see 11.1). The exception is Reader 7, who accents all three accentable syllables:

JUST so MUCH i WIST/

This shows the highest degree of compliance with the metre.

Reader 2 deaccents *earth*, placing it in the tail of the nuclear accent on *Before*:

beFORE the ['earth]

This is arguably less of a challenge to the metre than is the majority preference for deaccenting *Before* but not *earth*, because deaccenting *Before* removes the marker of the line opening. When only *earth* is deaccented the line opening marker is retained, and the deaccentuation is only a momentary challenge to the metre, which is maintained by the metrical set and by the beat which Reader 2 retains on *earth*. Even so, five out of nine readers accent *Before* and *earth*, in full fidelity to the metre.

mist (line 13) is deaccented only by Reader 5. He retains a beat, but the lack of pitch prominence is unusual in the first strong syllable of a line, which we would expect to function as a line opening marker. It is not surprising that this is an isolated example; all other readers accent *mist* and *crag* in accordance with the default patterns. Readers 1, 3, 8 and 9 make *Is mist and crag* a single nucleus group, but Readers 2, 4 and 7 divide it after *mist*, so that both accents are nuclei; Reader 6 has an ambiguous boundary here. This division has the retarding effect - especially as readers 2, 4, 6 and 7 all lengthen *mist*, whereas none of the other readers does.

The two occurrences of *even* in the parallelism *even such/Even so vague* are deaccented by Reader 9. They tell us little, since he gives *so* a nuclear accent, momentarily mistaking the second limb of the parallelism for the stock cohesive phrase *Even so* which because it is a stock phrase has a stock accentual pattern which treats *Ev-* as if it were a secondarily stressed syllable in a single word; it is consequently highly susceptible to deaccentuation.

man's and *witless* are dealt with in the discussion of non-lexical reversals in 12.1.

10.2.2 MacNeice

10.2.2.1 Rhythmic grouping and the poem's formal structure

Generally speaking the poem is divided formally into half lines, the division being marked by a major syntactic division in each line (see 6.1.2.1). In our data this formal organisation is usually marked prosodically by the end of a nucleus group coinciding

Table 3 - MacNeice: nucleus groups

Reader:	10	11	12	13	14	15	16	17	18	19
The further-off			/							
people	/	/		/	/	/				
are			/				/		/	/
the smaller.	/	/	/	/	/	/	/	/	/	/
Grandparents,/	/	/	/	/	/	/	/	/	/	/
Homeric heroes	/	/	/	/	/	/	/	/	/	/
and suffering Bantu/	/	/	/	/	/	/	/	/	/	/
Are nothing		/	/	/				/		
in size			/		/	/	/	/	/	/
to the tax-collector/	/	/	/	/	/	/	/	/	/	/
Or the dentist	/	/	/	/	/	/		/	/	/
breathing fire	/	/	/	/	/	/	/	/	/	/
on one's uvula.//	/	/	/	/	/	/	/	/	/	/
So	A					A				
the stunted commissionaire	/	/	/	/	/	/	/	/	/	/
bulks larger/	/	/	/	/	/	/	/	/		/
Than the massive magnate	/	/	/	/	/	/	/	/	/	/
at the turn								/		/
of the stairs/	/	/	/	/	/	/	/	/	/	/
While the coffin		/	/	/	/	/	/	/	/	/
entering						/				/
by the west door/	/	/	/	/	/	/	/	/	/	/
Screens	/					/				
the chancel	/	/	/	/	/	/	/	/	/	/
and dwarfs	/				/	A				/
the altar.//	/	/	/	/	/	/	/	/	/	/
Yet			/					/		
sometimes	/	/	/	/	/	/	/	/	/	/
for all these rules						/				/
of perspective/	/	/	/	/	/	/	/	/	/	/
The weak eye				/	/				/	/
zooms.	/	/	/	/	/	/	/	/	/	/
the distant midget/	/	/	A	/	/	/	/		/	/
Expands				/	/	/	A	/	/	/
to meet it,	/	/	/	/	/	/	/	/	/	/
far up stage/	/	/	/	/	/	/	/	/	/	/
The kings	/	A		/		/			/	/
go			/							
towering	/	/	/	/	/	/	/	/	/	/
into the flies;//	/	/	/	/	/	/	/	/	/	/
And down			/			A			A	
at the end			/			A			A	
of a queue	/	/	/	/	/	/	/	/	/	/
some infant/		/	/	/		/	/	/	/	/
Of the year				/						
Two Thousand	/	/	/	/	/	/	/	/	/	/
straddles				/		A			/	
the world/	/	/	/	/	/	/	/	/	/	/
To match				A						
the child	/		/	/	A	/	/	/	/	/
that was once yourself./	/	/	/	/	/	/	/	/	/	/
The further-off people	/	/	/	/	/	/		/	/	/
are							/			
sometimes	/	/	/	/	/	/	/		/	/
the larger.	/	/	/	/	/	/	/	/	/	/

with each caesura and line end. This is so even for strongly run on lines; for example a large majority of readers end a nucleus group at the end of the line

The weak eye zooms, the distant midget

The nucleus group, then, could be said to be the prosodic exponent of the poem's formal structure. But it is also true that only one line is performed by all readers with only two nucleus groups, divided at the caesura, namely:

Homeric heroes | and suffering Bantu

Although all readers give *some* other lines this prosodic structure, *all* other lines are varied in this respect by some readers, and some lines are varied from this structure by all readers. Performance can reflect other aspects of the syntax, or semantic and discoursal features. The means of this variation are of several types.

10.2.2.1.1 Prosodic division at the caesura - exceptions

In a handful of cases readers do not mark the formal caesura by a division between two nucleus groups. These cases are the following:

size Reader 10 does not divide this line, making *Are nothing in size to the tax-collector* a single nucleus group. Readers 11 and 13 have their sole nucleus group boundary in this line after *nothing*, emphasising that word and the comparison it is making; they bring out an aspect of the poem's discourse structure rather than its form at this point.

dentist It is as we have seen (6.1.2.1.2) unclear whether the formal caesura comes here, at *fire* or whether the line has two formal caesurae. All readers end a nucleus group after *fire*; Reader 16 is the only one not to do so after *dentist*.

coffin Reader 10 makes the entire line *While the coffin entering by the west door* a single nucleus group.

child Reader 11 makes the entire line *To match the child that was once yourself* a single nucleus group; Reader 14 has an ambiguous boundary at *child*.

These cases cannot be distinguished syntactically from those where the caesura is marked by all readers with a nucleus group boundary. We can classify the syntactic contexts of the other caesurae as follows:

1) A sentence boundary: *smaller*.

2) The items in each half-line are syntactically equivalent; the line is balanced, whether between items in a list (*heroes*) or between two sequences of verb and object (*chancel*).

3) An adverbial is divided by the caesura from the material it modifies. The adverbial may end at the caesura (*sometimes* in line 9, *queue*) or begin following the caesura (*fire*, *towering*).

4) Division of subject from predicate: *commissionaire, Thousand, people* in line 16.

5) Postmodification of a phrase (*magnate*).

6) Boundary between main clauses: *zooms, meet it.*

Those cases where some readers do not end a nucleus group at the caesura can be fitted into this categorisation: *dentist* and *coffin* are at the boundaries between subject and predicate, and *size* and *child* are followed by postmodification. So a failure to mark the caesura by beginning a new nucleus group seems to be a matter of random chance or individual preference (but those who do it do it in only one or two instances); these causes will bring out the syntactic or semantic continuity of whole lines at the expense of the formal structure.

10.2.2.1.2 Prosodic division at the line end - exceptions

In a very few cases readers do not mark line boundaries with a division between two nucleus groups. These cases are the following:

larger/ Than — Reader 18 has a nucleus group *bulks larger/ Than the massive magnate.*

midget/ Expands Reader 17 has a nucleus group *the distant midget/ Expands*. Reader 12 has an ambiguous boundary at *midget*; if it were not for this he would have a single group *the distant midget/Expands to meet it*

infant/ of Readers 10 and 14 have a nucleus group *some infant/ Of the year Two Thousand.*

The line boundary in *larger/ Than* comes before the beginning of a comparative clause; that in *midget/ Expands* separates subject from predicate; that in *infant/ Of* cuts a noun phrase, dividing the head noun from its postmodification. This is in ascending order of syntactic cohesion between the words each side of the line boundary; it is also in ascending order of the incidence of absence of a nucleus group boundary.

Moreover, all three of these syntactic boundaries are weaker than those at the other line boundaries, where nucleus group boundaries are universally made. *Bantu/ Are* and *door/ Screens* are subject/ predicate divisions, but the subjects - *Grandparents,/ Homeric heroes and suffering Bantu* and *the coffin entering by the west door* are more complex and (consequently) longer noun phrases than *the distant midget*. *Grandparents/ Homeric* divides coordinated noun phrases which are also the items in a list. In *tax-collector/ Or* the line boundary precedes a complex noun phrase; *uvula/ So, altar/ Yet, flies/ And* and *yourself/ The* are all sentence boundaries (and the first three are stanza as well as line boundaries); *stairs/ While* divides two coordinated clauses; *perspective/ The* and *stage/ The* separate adverbials from the material they premodify, and *world/ To* separates a matrix clause from the infinitive clause that postmodifies it.

And at those line boundaries where run-on is marked by absence of a nucleus group the incidence of this is low. I have observed elsewhere (Barney 1990) that only the very strongest run-ons divided onset from nucleus across the line boundary, as distinct from having no discontinuity features at the line boundary. That finding holds good for the present data, and we can conclude from it that the nucleus group is in the main an exponent of the lineation, variation against which is typically the province of other prosodic features.

10.2.2.1.3 Additional nucleus groups

Even where, as in the majority of cases, the caesura and line end co-occur with the ends of nucleus groups, it is fairly often not true that the groups which end at the caesura begin at the beginning of the line and that the groups which end at the line end begin immediately after the caesura. There are sometimes further divisions, so that the line is composed of several short nucleus groups; the rhythm is consequently slowed down. These additional divisions appear to be for one of four purposes:-

1) General emphasis: individual words are given a nuclear accent which points them up, and heightens the impression of the reading as a 'performance' (cf. similar examples in the Keats data - 10.1.1), but there is no obvious semantic reason for singling the word out. Nucleus groups of this type are (only nuclear accents are capitalised):

	Made by Reader(s)
at the TURN	17, 19
ENTering	15, 19
SCREENS	10, 15
and DWARFS	10, 14, 19; Reader 15 has ambiguous boundary.
for all these RULES	7, 19
exPANDS	13, 14, 15, 18, 19; Reader 16 has ambiguous boundary.
the distant midget/ exPANDS	17
and DOWN	12; Readers 15 and 17 have ambiguous boundary.
at the END	12; Readers 15 and 17 have ambiguous boundary.
of the YEAR	13
STRADdles	13, 18; Reader 15 has ambiguous boundary.
to MATCH	Reader 13 has ambiguous boundary.

2) Specific emphasis. The auditory effect is the same as the above cases, but there is an identifiable semantic reason for singling the word out. Cases of this are:-

are NOthing We noted earlier that two readers make a nucleus group boundary after *nothing* instead of at the formal caesura after *size*. But two more, Readers 12 and 17, have one after *nothing* as well as after *size*. The obvious reason for this is to emphasise the starkness of the contrast: *Grandparents,/ Homeric heroes and suffering Bantu* are not merely small compared to *the tax-collector/ or the dentist...*, but *nothing in size* to them.

SO Reader 10 has a nucleus group boundary after *So*, and Reader 15 and ambiguous boundary, so that it is not clear whether the accent is onset or

nucleus. Both readers, however, lengthen *So*, and Reader 15 makes an especially striking pitch obtrusion. *So* introduces further illustrations of the general principle stated in line 1; these two readers pause on the link word before revealing more.

YET Readers 12 and 17 give a nuclear accent to *Yet*. Since this is the poem's turning point it is somewhat surprising that more do not do so. The deaccentuation of *Yet* is treated in more detail in the discussion of lexical deaccentuations.

the weak EYE This noun phrase is singled out as a group by Readers 13, 14, 18, and 19. The image of the weak eye has its own force separate from the image of it zooming.

3) Boundary signals at stanza ends. This is a phenomenon identified by Abercrombie (1971:75) as the *terminal function* of the pauses he calls *silent stresses*, increasing numbers of which can sometimes be found at the ends of utterances. This seems to be the reason why nine out of ten readers divide line 4 into three nucleus groups, and why the same proportion have a boundary in line 16 after *sometimes* as well as after *people* or *are*. As well as these, *dwarfs* may be made a nuclear accent for this reason as well as for general emphasis; more readers place a nucleus on *dwarfs* than do so on *screens*, and *dwarfs* is closer to the stanza end. Five readers also have a boundary after *kings* (and one other has an ambiguous boundary) as well as after *towering*, although, as discussed below, there are clearer syntactic reasons for doing this as well as from the line's position at the end of the stanza.

4) Syntax. There are syntactic boundaries which are generally recognised as common points to have a prosodic boundary, including the boundaries of clauses, complex noun phrases and adverbials. In this poem most such points are the formal caesurae. But there are in addition:

people and *are* in lines 1 and 16. All readers except Reader 17 in line 1, have a nucleus group boundary at one or other of these points, depending on their interpretation of the sentence. A boundary after *people* divides subject from predicate; one after *are* divides (what these readers see as) the noun clause *The further-off people are* from the article and comparative adjective *the smaller.*

kings Four readers have a nucleus group boundary here, and Reader 11 has an ambiguous boundary. This is another case of subject divided from predicate.

go Reader 12 ends a group after *go*, although it is *kings* that carries the nucleus. Although the complete group is *The kings go*, he does not pause at the line boundary preceding this, and does pause after *go*. Pitch drops slightly to a level tone on *stage*; there is then a high fall on *kings*. This suggests that for Reader 12 *The kings go* coheres more closely with the preceding adverbial than with *towering into the flies*, which follows; or at any rate that, once he had marked prosodically its cohesion with the adverbial, the length of the sequence produced demanded a pause at an early opportunity.

There is a noticeable increase in the incidence of these additional nucleus groups when the motivation for them is syntactic or terminal rather than emphatic. One probable reason for this is that the words on which this kind of additional emphasis is placed have to be picked out specially; they come in what from the point of view of most discourse are unexpected places. A nucleus group which exists for the purpose of placing a nuclear accent on an unexpected word foregrounds the retardation of the rhythm more than one which articulates a syntactic constituent which is a commonplace domain of a separate group.

10.2.2.2 Accentual patterns of strong syllables (excluding lexical deaccentuations)

As in the Keats data, four words, apart from the lexical deaccentuations, have the highest instances of deaccentuation. These are *breathing, bulks, eye* and *Two*.

The deaccentuation of *breathing* and *bulks* mostly takes place in the context of a preceding nucleus group boundary. All the readers who deaccent *breathing* end a nucleus group after *dentist* (which is accented by everybody) except for Reader 16, who has a single group:

or the DENTist ['breath]ing FIRE

and for whom *breathing* is a clear operation of the intermediate accent rule. The deaccentuation of *breathing*, as well as the division of the line into three nucleus groups, articulates the syntactic division of the line into three, which does not allow us to choose either *dentist* or *fire* as the point of one main formal caesura. The effect of

Table 4 - MacNeice: accentuation of strong syllables

Text	Accent	Beat	Unprominent
further (line 1)	10	0	0
off (line 1)	4	4	2
people (line 1)	6	4	0
smaller	10	0	0
Grand(parents)	10	0	0
(Grand)parents/	0	7	3
Homeric	10	0	0
heroes	10	0	0
suffering	10	0	0
Ban(tu)/	9	0	1
nothing	10	0	0
size	9	1	0
tax	10	0	0
collector/	1	9	0
dentist	10	0	0
breathing	1	6	3
fire	10	0	0
one's	0	0	10
uvula//	10	0	0
stunted	10	0	0
(com)miss(onaire)	1	4	5
(commisson)aire	8	1	1
bulks	2	6	2
larger/	10	0	0
massive	10	0	0
magnate	10	0	0
turn	9	1	0
stairs/	10	0	0
coffin	10	0	0
entering	10	0	0
west	6	4	0
door/	9	0	1
Screens	10	0	0
chancel	10	0	0
dwarfs	10	0	0
altar//	10	0	0
Yet	2	0	8
some(times) (line 9)	10	0	0
(some)times	0	0	10
all	9	1	0
rules	9	1	0
perspective/	10	0	0
weak	10	0	0
eye	5	1	4

zooms	10	0	0
distant	9	1	0
midget/	10	0	0
Expands	10	0	0
meet	10	0	0
far	10	0	0
stage/	10	0	0
kings	10	0	0
go	0	0	10
towering	10	0	0
into	1	0	9
flies//	10	0	0
down	10	0	0
end	9	1	0
queue	10	0	0
some	0	1	9
infant/	10	0	0
year	9	1	0
Two	3	0	7
Thousand	10	0	0
straddles	10	0	0
world/	10	0	0
match	9	1	0
child	10	0	0
once	10	0	0
yourself/	10	0	0
further (line 16)	10	0	0
off (line 16)	2	1	7
people (line 16)	6	4	0
some(times) (line 16)	10	0	0
(some)times	0	0	10
larger	10	0	0

the deaccentuation of *breathing* is to give *breathing fire* a pattern of prominence similar to the default pattern of *Or the dentist* and to the pattern in performance of *on one's uvula*: in *Or the dentist* the main accent is preceded by two weak syllables; in *breathing fire* by one syllable deaccented by most readers and one which is lexically unstressed; and in *on one's uvula* by one weak syllable and one eminently deaccentable, and universally deaccented, one (*one's*). So the pattern *x x / x (x)* occurs three times (if we regard *fire* as a disyllable, a possibility which will be present as a

hint even if not realised in performance); a parallelism is created. *breathing fire* is a familiar phrase (though not a stock one) which functions to some extent as a phrasal verb; this provides an additional reason for the deaccentuation of *breathing*. Reader 14, the sole accenter of *breathing*, still has a trajectory from onset to nucleus:

BREAthing FIRE

which marks the phrase as separate; she still has the triple division of the line. And Reader 16, who as we have seen divides the line into only two nucleus groups, still has - since she deaccents *breathing* - the parallelism of accentual patterns to convey the triple division.

bulks, eye, and *Two* are all the middle ones of three adjacent strong syllables. For this reason alone they are susceptible to deaccentuation in order that an alternation between strong and weak pulses can be preserved: it is not only in metrical verse in English that a tendency for rhythmic alternation exists.

bulks when deaccented smooths the passage to the nucleus on *larger*. *bulks* comes immediately after the caesura at *commissionaire*, a caesura all readers mark by ending a nucleus group. Since it is the only syllable between *commissionaire* and *larger* it is different from cases where the trajectory to the nucleus can be launched by an accent on the onset, then carried forward by syllables between the onset and the nucleus (for example the underlined syllables in *entering by the west door*); *bulks* forms an accented onset for just two readers, Readers 12 and 15. Six others, however, retain a beat on it, which serves as a residual initiation marker for the half-line.

eye and *Two* are clear applications of the intermediate accent rule: with one exception, where deaccentuation occurs the patterns are:

the WEAK [eye] ZOOMS the YEAR [two] THOUsand

This may account for the fact that the deaccentuations of these two syllables are with one exception (Reader 10 retains a beat on *eye*) total deaccentuations: the positions of *breathing* and *bulks*, mean that for the majority of their deaccenters who retain a beat on them they appear to function as residual onsets.

For *eye* the intermediate accent rule overrides a general tendency to subordinate prosodically a premodifying adjective to its noun (see Attridge (1982:230-239); cf. also the deaccentuation of *craggy* in the Keats data - 10.1.1); here it is the noun which loses its accent. Form here overrides content: the consensus is to place the onset on the first accentable syllable of the line, deaccent *eye* and place the nucleus on *zooms* - the last accentable syllable before the caesura. But the tension between form and content may account for the fact that although *eye* is among the syllables with a high incidence of deaccentuation it nonetheless manages only 50%. The other half of the readers prefer to bring out the content; and as we have seen four of these five make *eye* a nuclear accent. The seven deaccenters of *Two* have *Of the year Two Thousand* as a single nucleus group with the onset on *year* and the nucleus on *Thousand*, except for Reader 10 who has a nucleus group stretching through *some infant/ Of the year Two Thousand* (and who also deaccents *year*). Reader 14, who does not deaccent *Two*, is the only other reader who has a single nucleus group taking in the entire noun phrase; probably other readers would if there were not a line boundary following *infant*. The higher incidence of deaccentuation in the case of *Two* compared with *eye*

is probably due to the fact that not only does it lack the tension between form and content, but content is fully consistent with form: *the year Two Thousand* is a familiar phrase in which the deaccentuation of *Two* may well have become stylised.

There are three words which are deaccented by four out of ten readers that is, the largest possible minority. These are *people* in the first and last lines, and *west* (line 7). The deaccenters of *people* in the first line, Readers 12, 16, 18 and 19, are those who end a nucleus group at *are*; who in other words interpret the poem's first sentence as a statement of an *a priori* principle ('the further off that people get, the smaller they become') rather than of an empirical observation ('it is the people who are further off who are the smaller'). With the exception of Reader 18 they accent *are*, so that *people*, coming between onset on *further* and nucleus on *are* is deaccented by the intermediate accent rule. Reader 18 does not accent *are*, though he gives it a beat and a full vowel; the fact that *off*, which he does accent, is adjacent to the stressed syllable of *people* presumably contributes to his deaccentuation of *people* (Readers 12 and 19 also accent *off*). If all readers agreed in interpreting the sentence as a statement of a principle, instead of this interpretation being in a minority, I suspect that the majority would deaccent *people*. The deaccentuation of *people* at the end of the poem, however, is a rather different phenomenon. In the sentence *The further-off people are sometimes the larger* an interpretation as a statement of an *a priori* principle sounds more forced (Reader 12 changes his accentual pattern between lines 1 and 16). But it is not impossible: 'it is sometimes the case that the further one gets from people the larger they seem' or 'the further off [that] people are - sometimes - the larger'. Only Reader 16, however, makes this interpretation by accenting *are* in the last line and having *The further-off people are* as a single nucleus group (Reader 14 makes *are* the

onset of the next nucleus group), so that her deaccentuation of *people* comes between onset on *fur-* and nucleus on *are*. We have a different cast of deaccenters this time, the other three being Readers 10, 14 and 18. (Readers 10 and 14 do not accent *are* in line 1.) These three have a boundary after *people*, and of them only Reader 18 accents *off*, so the desire to avoid juxtaposed accents will not do as an explanation this time for Readers 10 and 14. But since all deaccenters of *people* retain a beat, and Readers 10 and 14 remove all prominence from *off*, *people* functions for them as, so to speak, a 'near-nucleus'.

The deaccenters of *west* - Readers 10, 13, 16 and 18 - all have onsets on *entering* and nuclei on *door*, so this is a straightforward operation of the intermediate accent rule, congruent with the formal division of the line from the caesura to the end of the line. The incidence of deaccentuation here may also be a result of the fact that *west* is a premodifying adjective, and of the juxtaposition of the strong syllables *west* and *door*.

There are six cases where the only deaccentuation is by Reader 11. Two of these are straightforward operation of the intermediate accent rule: *rules* in the context *for all these rules of perspective*, with onset on *all* and nucleus on *perspective*, and *end* in the context *and down at the end of a queue*, with onset on *down* and nucleus on *queue*. Three more occur after nucleus group boundaries: *size* (after a boundary at *nothing*):

in ['size] to the TAX-co['llect]or

turn (after a boundary at *magnate*):

at the ['turn] of the STAIRS

and *distant* (after a boundary at *zooms*):

the ['distant] MIdget

All three downgrade syllables which would naturally attract the onsets of their groups. Moreover, *turn* and *distant* are the first strong syllables in their respective half-lines, and we would expect them to be accented to mark this. This may simply be one reader's idiosyncrasy. The last example that he alone manifests, *door* occurs immediately before a line boundary, where we would normally expect a nuclear accent. Yet he deaccents *door* completely (his other examples at least retained a beat). The nucleus is on *west*; rhythmic grouping alone - the ending of the nucleus group at the line end - is the prosodic exponent of the form here. *west* as we know is deaccented by several readers and is syntactically the more likely of the two words to be so. In short, in view of their non-congruence with the poem's formal structure, it is not surprising that these deaccentuations are confined to a single reader.

There are three remaining isolated deaccentuations by other readers.

match is deaccented by Reader 15, showing a similar pattern to some of Reader 11's deaccentuations, placing *match* in the prehead of a nucleus group with no head:

to ['match] the CHILD

There is a close syntactic cohesion between *straddles the world* and *To match the child*. More readers might deaccent *match*, and some might possibly not have the nucleus group boundary that all of them do have at *world*, if a line boundary did not come between *world* and *match*, so that an accent on *match* marks the line opening.

The primary stress of *commissionaire* is deaccented by two readers. Reader 17 does this simply as a result of misinterpreting the word as *commissioner*. Reader 12 is more interesting. Like all the readers he divides the line into two nucleus groups, with the division at the caesura, after *commissionaire*. But his deaccentuation of both the primary and secondary stress of *commissionaire* means that *stunted* carries the nucleus of the first nucleus group. He does not, however, mark the boundary by any discontinuity features, and he is one of the minority that gives an accent to *bulks*; the primarily stressed final syllable of *commissionaire* sounds, being placed in the tail, 'squeezed out' by the preceding and following accents on *stunted* and *bulks* respectively, even though a boundary intervenes before *bulks*, as if Reader 12 were rushing to place the onset on *bulks* to announce the arrival of the second half of the line.

Reader 10 deaccents *year*. He has a single nucleus group, thus:

some INfant/ of the ['year Two] THOUsand

This clearly is an application of the intermediate accent rule; and the deaccentuation increases the sense of the run-on by assisting the rhythmic trajectory across the line boundary *infant/ Of*. Rhythmic structure strongly resists the poetic form here.

10.3 Conclusions

We can summarise the findings of this chapter as follows:

In metrical verse:

Just as, at default level, promotion and demotion can momentarily accelerate or retard the metre (Attridge 1982:171) so can deaccentuation and unexpected accentuation in performance (and any reading of verse, including a silent one, is in a sense a performance). Deaccentuation can accelerate the trajectory from onset (if any) to nucleus. If a deaccented syllable retains a beat, as frequently happens in metrical verse, we can see the beat as a residue of the metre; the fact that deaccentuation was not total is a symbol of the tension between rhythm and metre.

The highest *incidences* of deaccentuation are of syllables in the middle of sequences which are relatively *long*, which are *major syntactic constituents* (clause or above) and are *metrically regular*. Where a sequence is short; the syllable in question is peripheral in the sequence; or there is some conflict of the default patterns close to it - or any combination of these - the incidence of deaccentuation is likely to be low. Long metrically regular sequences can be varied by the alignment of nucleus groups with them, and by discontinuity features.

Strong syllables at line openings and line ends are resistant to deaccentuation. This is because nucleus groups are resistant to carrying across line boundaries: onsets therefore frequently occur at line openings and nuclei at line ends. Where

deaccentuation does occur at line openings and line ends, it detracts somewhat from the prosodic integrity of the line.

In non-metrical verse:

Nucleus group boundaries are normally coterminous with lines and - because of the formal caesurae - with half-lines. Since there is no metrical beat, if nucleus groups vary against the lineation to articulate the phrasing, they vary only against our expectation of their congruity with the lineation; there is no constant pulse alongside the variation, even in residual form. As in metrical verse, however, when syntax cuts across line boundaries this may not be articulated by nucleus groups. The nucleus groups may remain as stable exponents of lineation, coterminous with lines, while other prosodic features such as pitch patterns and discontinuity features are foregrounded as they articulate the syntax. But nucleus groups additional to those ending at the ends of lines and half-lines can, by introducing additional nuclear accents, retard the movement between line and half-line boundaries, causing some tension with the formal structure.

Deaccentuation can, since there is no metrical pulse, reinforce the formal structure when nucleus groups are in harmony with the latter, by assisting their trajectory, and so foregrounding in performance the half-line or line. When nucleus groups are not congruent with the formal structure deaccentuation may combine with them to counteract it.

The initial and final accentable syllables of lines are, like those in metrical verse, resistant to deaccentuation. In the MacNeice data this is also true of the initial and final accentable syllables of half-lines (some of which are of course also the initial and final accentable syllables of lines). If, however, the initial or final accentable syllable of a line or half-line is deaccented, and so deprives that line or half-line of a prosodic marker of its beginning or end, this can cause tension even when the nucleus group the deaccented syllable belongs to is co-extensive with the line or half-line.

Chapter 11

Patterns of accentuation in the recitations (2): lexical deaccentuation

Lexical deaccentuation - the deaccentuation of words which are inherently susceptible to it (see 9.3.1) - is one kind of deaccentuation that does occur fairly readily in the data. There are twelve examples in the Keats (see table 2) of words which are vulnerable to lexical deaccentuation. These are:

the disyllabic prepositions *Upon, into, before* and *beneath* (two occurrences);

the pronouns *much* (three occurrences) and *such*, which have clearly identifiable antecedents in the poem, and so carry a small information load;

the disyllabic pronoun *himself*;

all and *only* which again carry little information.

Of these only *much* in line 6 and *beneath* in line 8 have no deaccentuation at all.

In the MacNeice (see table 4) there are fourteen words with the potential for lexical deaccentuation, namely:

the weak elements of compounds: the *off* of *further-off* (in lines 1 and 16), *parents* in *Grandparents* and *collector* in *tax-collector*. These are eminently accentable when used as words in their own right, and are classed as strong because they may be accented even though incorporated into compounds; but they are obviously more susceptible to deaccentuation than the first elements of the compounds.

the possessive *one's*;

the syllables with secondary stress: the second syllable of *commissionaire*, and the second of *sometimes* (in lines 9 and 16), which is listed by *Collins English dictionary* as having secondary stress;

the conjunction *Yet*, whose status in other contexts as an adverb gives it some accentability; I categorise it as strong not weak, even though, functioning here as a conjunction, it is a marginal example of a strong syllable;

the determiners *all* and *some* (the latter in the sense of 'one particular' rather than 'a few' or 'a small quantity'; in the latter sense it would be a weak syllable, both normally deaccented and reducible);

go, which in the context of the verb phrase *go towering* is virtually an auxiliary verb, most of the information load being carried by *towering*;

the polysyllabic function words, the preposition *into* and the pronoun *yourself*;

Of these only *yourself* is not deaccented by anybody.

The potential cases of lexical deaccentuation in both poems almost all show some deaccentuation. If, however, we compare the two poems for the *incidence* (as opposed to the mere existence) of lexical deaccentuation we find a sharp difference. If we look at the ten potential cases of lexical deaccentuation in the Keats which do in fact show some deaccentuation only three, *into, beneath* (line 10) and *much* (line 11) are deaccented by more than half the readers. By contrast of the thirteen potential cases of lexical deaccentuation in the MacNeice which do receive some deaccentuation only *all* is deaccented by *fewer* than half the readers. We could regard six of the MacNeice examples, the two occurrences of *(further-)off* and of *(some)times*, *(Grand)parents* and *collector* as special cases: syllables which are normally very accentable becoming *de facto* lexically unstressed - and so virtually certain of being deaccented - by being incorporated into a compound. This is especially true of *Grandparents* and *sometimes* whose status as compounds is so well established that they have become assimilated as words in their own right. But if we

deliberately leave these cases out of our reckoning we still have six cases where more than half the readers deaccent and only one where fewer than half do: compare this with a bias of 7:3 the other way for the Keats. In the Keats something appears to dampen the tendency to lexical deaccentuation, and it is easy to suspect that it is the metre.

Moreover of the comparable cases (that is, excluding the MacNeice 'compound' examples) that show some deaccentuation at all, we see that the trend for deaccentuation to take a less extreme form in the Keats than in the MacNeice is maintained for lexical deaccentuation: in seven out of ten Keats examples the deaccented readings are predominated by readings which give the syllables a rhythmical beat, preserving in performance some prominence and so some sense of the metre; only two examples, *into* and *much* (line 11) are predominated by wholly unprominent renderings, and for these there are special circumstances. (*into* is discussed with weak remiss syllables in 12.5 and *much* - which must be considered with the adjacent *Thus* - with strong remiss syllables in 12.4). One other example, *only*, is deaccented by two readers one of whom gives the stressed syllable a beat and the other of whom does not; the incidence of deaccentuation types is evenly balanced. In the MacNeice, of the seven comparable cases, all but one (*all*) are by most readers deaccented completely. (The preponderance of total deaccentuation would be even greater if the 'compound' examples were included.) Let us now look at the individual cases in more detail.

11.1 Keats

In the Keats data the patterns found in lexical deaccentuations all show the tension between metre and rhythm. This shows in differences between different parts of the poem, and in differences between readers.

Only two potential lexical deaccentuations are in fact deaccented by no one, and they have circumstantial reasons for this. *much* (line 6) occurs at a line end, the end, that is, of a metrical unit. The metre apparently restrains the word's inherent tendency to deaccentuation: all readers in fact end a nucleus group here, making *much* the nucleus. Compare this with *much* in line 4: syntactically the two occurrences of the word are in identical contexts - at the heads of noun phrases which are the objects of *know* (line 4) and *tell* (line 6). But *much* in line 4 occurs mid-line; and is deaccented by three readers. *beneath* (line 8) occurs in the prepositional phrase *beneath me*. This is in apposition to *Before the earth*; this apposition is signalled prosodically by *beneath me* being placed in a separate nucleus group. *-neath* is the most accentable syllable in that group, and takes the nucleus by default. That *-neath* is deaccented by no-one is owing to the rhythmic grouping, which reflects the syntax. Compare *beneath* in line 8 with the occurrence of the word in line 10. Here the complement of *beneath* is not a pronoun but the noun phrase *my feet*; when *feet* can take the nucleus *beneath* is deaccented by a majority of readers.

Of the disyllabic prepositions, the accent of *Upon* is retained by five out of nine readers. The most likely reason for the restraint on deaccentuation here is the fact that *-pon* is the first accentable syllable of its line. This gives it a metrical significance; in

the majority of readings it takes the onset even though it is inherently susceptible to deaccentuation, and so marks the beginning of the metrical domain of the line. Those four readers who do deaccent *Upon* include Reader 7, who does not end a nucleus group on *loud*, at the end of the previous line; and Reader 3, who has only an ambiguous boundary there. For these two readers the prosodic grouping and the deaccentuation of *Upon* combine to bring out the integrity of the adverbial *loud/Upon the top of Nevis* more than that of the lineation. Nonetheless it is possible to equivocate between the two: Readers 1 and 4 end a nucleus group at the line boundary after *loud* but also deaccent *Upon*. While the majority of readers emphasise the metre here, what this line boundary demonstrates is the wide choice available to a reciter for negotiating the double pattern (Bradford 1993) of metre and the poem's discourse structure.

Before is another case of a word which is lexically deaccentable but which here retains its accent in the readings of more than half the readers; and like *Upon* is occurs at the beginning of a line. Consistent with the theory that this preference for accentuation reflects a preference for marking the beginning of the metrical unit of the line is the fact that Readers 1 and 8, who do not mark the end of the previous line by ending a nucleus group there (after *spread*), and Reader 9, who has only an ambiguous boundary, are amongst those who do deaccent *Before*. Reader 1 deaccents *Before* completely; he also deaccents *spread*, though retaining a beat on it: he gives a single rhythmic trajectory to the words *Mist is spread/Before the earth*. The other deaccenter of *Before* is Reader 4, who ends a nucleus group - and makes a pause - after *spread*: he thus marks the line boundary, showing some observance of the metre, but his deaccentuation of *Before* the veers away from the metre. His rendering across this line

division conveys the tension between metre and rhythm by its use of features representing opposing tendencies.

into is shown by *Collins English dictionary* as being lexically stressed on its first syllable; and the second syllable has as we know a reducible vowel. The metrical set would normally stipulate that the positions occupied by *into* would be remiss followed by ictus. But because its lexical stress pattern directly counters this I have classified *into* as a lexical reversal (see 7.1.2), with ictus shifting to *in-*. Nonetheless, although *in-* is certainly accentable, treating *into* as a lexical reversal is not altogether satisfactory: it is possible for *-to* to take a beat if not an accent - one of the *Collins English dictionary* examples is *he drove into a wall*, which could be pronounced with the rhythm *he 'drove in'to a 'wall*, preserving a general tendency of English to alternate between prominent and non-prominent syllables (e.g. Couper-Kuhlen 1986:60). Since allowing the second syllable of *into* to take a beat would here also be consistent with the metrical set, we might suppose it would be more likely to happen: the possibility is *allowed* by the speech rhythm and *encouraged* by the metre. What happens is that *in-* is completely deaccented by everybody, but *-to* is given a beat by just two readers, Readers 1 and 8 (see 12.2). The word's inherent deaccentability is allowed a full rein by most readers; only a minority choose to bring out the metre at all, even though doing so here would give a pattern natural enough outside verse recitation.

Of the pronouns *much* and *such*, we have noted that the position of *much* at the end of line 6 can account for its being deaccented by nobody, compared with the three readers who deaccent *much* in line 6. But *such* also occurs at a line-end, and has two

deaccenters, Readers 1 and 4; it may simply be chance that causes two readers to succumb to the force of inherent deaccentability - the majority mark the line end with an accent. *much* in line 11 is discussed together with *Thus* under weak remiss syllables.

himself occurs at a line end: this is one obvious possible reason for the fact that it is deaccented by only one reader, Reader 1. It occurs in a context which is a typical one for the type of post-nuclear deaccentuation discussed by Bolinger (1986) (see 9.3.1): the normal expectation would be that the nucleus would be placed on *sight*, with *himself*, because of its lexical deaccentability, carried unaccented in the tail. Reader 1 is the only reader to do this. Of the remainder, who accent it, three, Readers 2, 5 and 6, place the nucleus on *sight*, then make *of himself* a separate nucleus group with *-self* as its nucleus. Here the line's three short phrases are rendered as parallel rhythmic divisions: *Even so vague | is man's sight | of himself.* The spur to accenting *himself* comes from the prosodic foregrounding of this structure. Reader 8 has a single nucleus group from *man's* to *himself*; he places the nucleus on *himself*; *sight* is deaccented by the intermediate accent rule. It is interesting that after *vague* he has a single rhythmic trajectory to a nucleus at the line end, when *himself* would seem to be a more deaccentable word than *sight*. It is as if, following the parallelism of *even such/Even so vague* this reader was anxious to restore the line's integrity rapidly. The remaining four readers, Readers 3, 4, 7 and 9, also have a trajectory from after *vague* to the line end, albeit a less rapid one: they retain an accent on *sight* but it is *himself* which is given the nucleus.

all is deaccented by two readers, Readers 4 and 5. For all readers *that*, which precedes *all*, begins a new nucleus group, so that there is pressure for some syllable to carry the onset. For the majority of readers *all* does so, a choice facilitated, probably, by its position between two words which readily act as clitics, *that* and *my*; the principle of alternation works here, and of course the metre reinforces it. But inherent deaccentability is enough to influence a minority. This influence might well have counted for nothing had *all* occurred at the beginning of a line as well as at the beginning of a nucleus group; *all* might then have been universally accented.

only is also deaccented by two readers, Readers 1 and 2. Reader 1 retains a rhythmical beat, whereas Reader 2 removes all prominence from the word. Now Reader 2 also *accents* the preceding *not*, making it the onset of a nucleus group which runs to a nucleus on *height*, so that *only* is deaccented by the intermediate accent rule. Since *not* is in remiss and *on-* is ictic the accentual pattern runs counter to the metre. Reader 1, on the other hand, gives no prominence to *not*; this and his retention of a beat on *only* preserves just enough alternation between prominent and non-prominent to give voice to the metre in performance, while allowing the inherent deaccentuation of *only* to influence his performance as well, giving some variation of the metre. But the majority accent *only*, allowing the metre full expression. This does not violate any rules for accentuation in speech in general - it is simply that the road of deaccentuation is not taken - but the fact that some readers do take it suggests that not to do so is to be influenced by the metre.

11.2 MacNeice

Those cases which are the weak elements of compounds vary in their incidence of deaccentuation more or less according to the extent to which they have become assimilated as words in their own right. *Grandparents* is normally felt to be, and is printed as, one word; *-par-* has no accentuation, although seven out of ten readers retain a beat. *tax-collector* is printed with a hyphen, but is well enough known as a compound noun; *coll-* is accented by one reader, Reader 16, but all other readers retain a beat on it. *further-off* is arguably the least assimilated as a word in its own right: it may be hyphenated when, as here, it is used attributively, but is not normally hyphenated when used predicatively. *-off* has the lowest incidence of deaccentuation of the three compounds: in its occurrence in line 1 four out of ten readers retain an accent. This drops to two for its occurrence in line 16; since this is its second occurrence, the higher incidence of deaccentuation here may be due to its having become given information, but even here more readers retain an accent on *-off* than do so on either *-collector* or *-parents*.

one's is completely deaccented by all readers. It occurs immediately before another strong syllable, the first, stressed, syllable of *uvula* (so deaccentuation avoids a juxtaposition of accents), and for all readers *on one's uvula* is a complete short nucleus group. The line is by all readers except Reader 16 divided prosodically into three, and the three parts form a rhythmic parallelism, which the deaccentuation of *one's* helps to bring out. This is dealt with further in the discussion of *breathing* above.

The second, secondarily stressed, syllable of *commissionaire* is accented only by Reader 17 - and this is because she mistakes the word for *commissioner*, so we can discount it. All readers have either a single nucleus group *So the stunted commissionaire*, or divide this sequence after *So*; for all readers except for Readers 12 and 17, *-aire* takes a nuclear accent. The deaccentuation of *-miss-* fits this trajectory, whether the deaccentuation is total or whether a beat is retained. The second syllable of *sometimes*, the other case of secondary stress in the poem, has no prominence of any kind in either occurrence. Although the syllable is technically accentable, it is a marginal example of an accentable syllable, which impinges on the category of lexically unstressed syllables.

Yet is the poem's turning point. Together with the immediately following *sometimes* it introduces the qualification to the general principle developed in the preceding stanzas. In most cases *Yet* is completely deaccented: *Yet sometimes* is a single nucleus group with the nucleus on *some-*. But those who accent *Yet*, Readers 12 and 17, give both it and *some* nuclear accents (Reader 17 with fall-rise on *Yet*). In effect *Yet* and *sometimes* are treated as separate reflective qualifications: *Yet* flags a qualification to the general principle that *The further-off people are the smaller*, and *sometimes* gives a condition under which the qualification applies. But the inherent deaccentability of *Yet* is probably a spur to the majority's deaccentuation of it, as may be the fact that deaccenting it assists the trajectory to the caesura after *sometimes*.

all is one case of lexical deaccentuation where the majority retain an accent. Everybody begins a new nucleus group after *sometimes*, immediately post-caesura; *all* takes its onset. It is helped to do so by its position between two weak syllables, *for*

and *these*, - comparing, in this regard, with *that all my eye doth meet* in the Keats sonnet. But here the phenomenon occurs in the absence of a metre, though at the beginning of a half-line. The sole deaccenter of *all*, Reader 12, retains a beat on it; the pressure to deaccent is evidently weak. In this it contrasts with *Yet* which, unlike *all* is adjacent to another strong syllable. This is also true of the other determiner, *some*, which is deaccented by everybody, although Reader 16 retains a beat on it.

go is between two other strong syllables, *kings* and *tow-*, and is completely deaccented by all readers. It is, like *eye* and *Two*, between two other strong syllables. *go* carries, as we have observed, little information, and whether the nucleus group it belongs to is *The kings go towering* (Readers 14, 16 and 17), *go towering* (Readers 10, 13, 15, 18 and 19, and possibly Reader 11) or *The kings go* (Reader 12), there is a pattern of rushing between the main accents of the half-line.

The preposition *into* in all cases belongs to a short nucleus group *into the flies*. All readers deaccent *into* completely except for Reader 14, who accents *in-* and makes it the onset of the group; the consensus, though is to preserve here the tendency in this poem to rush between major accents.

yourself is the one potential case of lexical deaccentuation in the poem which is in fact deaccented by nobody. It occurs at the end of a sentence and at the end of a line; end-focus of two kinds here restrains deaccentuation (cf. *man's sight of himself* in the Keats data - 11.1). Moreover, its information load is for a pronoun relatively high. To refer in the third person to *the child that was once...* as if that child was a different person from the poem's addressee means that the second person pronoun *yourself* is

not the most easily predictable word to serve as complement and be equated with 'the child that was once...'. For all these reasons the readers give it a nuclear accent.

11.3 Conclusion

Lexical deaccentuation, then, occurs in similar contexts to other deaccentuations of stong/ strong ictic syllables. The words' inherent qualities make them more susceptible to deaccentuation; the use of such words alongside other strong/ strong ictic syllables is a resource available to poets to give greater variety to the verse rhythm, and so greater variety to the counterpointing of this rhythm with the metre or form.

Chapter 12

Patterns of accentuation in the recitations (3): where the default patterns conflict

This chapter deals with the accentual patterns of the remaining types of syllables. For the most part this comprises the syllables in the Keats data where the metrical and speech-rhythm defaults, and so the cues to accentuation and deaccentuation, conflict: the section on non-lexical reversals deals with those cases where a weak ictic and a strong remiss syllables occur adjacently; the section on weak ictic syllables deals with the cases of what Attridge calls *promotion* and that on strong remiss syllables with cases of Attridge's *demotion* (see 3.2). As well as these I here examine weak syllables in the MacNeice data and weak remiss syllables in the Keats, those syllables which are normally unaccented.

12.1 Non-lexical reversals

Table 5 - Keats: accentual patterns of non-lexical reversals

Text	Accent	Beat	Unprominent
Read	9	0	0
me	0	0	9
sight	8	1	0
of	0	0	9
Here	9	0	0
are	0	0	9
a	0	0	9
poor	7	1	1

In non-lexical reversals the speech-rhythm default clashes directly with the metrical default (see 7.1.2 and 9.3.2): a weak syllable occurs in the ictic position and an adjacent strong syllable in remiss. In theory at least the two syllables have pressure exerted on them both to retain and to lose their accents; the outcome in performance might be thought unpredictable.

In practice (see table 5) the four non-lexical reversals in the Keats, *Read me, sight of, Here are* and *a poor* are treated as if the metre did not exist: the weak syllables are universally spoken unaccented, and the strong syllables are near-universally accented. The few deaccentuations of the strong syllables, (one of *sight* and two of *poor*) may partly occur because the syllables are in remiss position, but the context in which they occur may play a larger, and possibly the only part.

In *Read me* and *Here are* the speech rhythm default can be said to have won the conflict between it and the metre: The strong syllables *Read* and *Here* are accented by everybody and the weak syllables *me* and *are* by nobody, despite their metrical positions. But these two reversals are, in Attridge's terms, cases of initial inversion rather than pairing (see 3.2) - they are in traditional terms reversed first feet. Attridge (1982:188) observes that 'initial inversion does not create the same rhythmic tension as an implied offbeat within the line' because there is not the same challenge to the alternation of strong and weak pulses. These initial inversions, then, are self-contained; they can be observed by everybody but treated simply as a momentary deviation, without implications for the rhythmic shape of the line beyond the two syllables directly involved.

The two reversals which occur mid-line, *sight of* and *a poor* are rather different. They have some deaccentuation, but this extends to adjacent syllables which are not part of the reversals themselves. The deaccentuation appears not to be a matter of the metre retaining enough power to prevent the full assertion of the speech rhythm default. This is not a self-contained deviation. If it were we could expect some accentuation of the weak syllables to complement the deaccentuation of the strong ones, and there is none. This, and the fact that adjacent strong ictic syllables (*man's* and *wit-*) are deaccented (even though this contradicts the metre) suggest that the deaccentuations are cued by the phrasing regardless of either default pattern.

The sole deaccenter of *sight* is Reader 8. *man's*, which precedes it, is deaccented by five out of nine readers; but Reader 8 is one of the exceptions: he has a nucleus group, *is man's sight of himself*, with onset on *man's* and nucleus on *sight*. *sight*, then, is deaccented by the application of the intermediate accent rule; it is this nucleus group, and not the syllables of the reversal alone, which is the domain in which deaccentuation takes place.. But the other three readers who preserve the accent on *man's* accent *sight* as well; and the majority, who deaccent *man's*, all accent *sight*, two readers actually giving it a nuclear accent: *man's* - not part of the reversal itself - then belongs to the prehead, and is proclitic to the accent on *sight*, whether the latter is onset or nucleus: *is man's sight* is the focus of the rhythm at this point to all readers whether or not they deaccent *sight*.

In the case of *a poor* all readers have a nucleus group *a poor witless elf*, with the slight exception that two readers add the preceding *that* (unaccented and reduced) to the prehead. Although *poor* is one of the syllables of the reversal itself, its two

deaccenters, Readers 1 and 8, treat it in the same way that *man's* - which is not itself part of the adjacent reversal - is treated by its deaccenters. *poor* becomes when deaccented part of the prehead before the onset on *witless*. Reader 9, who preserves the accent on *poor*, making it the onset, then deaccents *witless* by applying the intermediate accent rule. Both patterns of deaccentuation seem to derive from the phrasing - the noun phrase *a poor witless elf* and the rhythmic grouping it gives rise to - rather than from the direct conflict of the metrical and speech rhythm default patterns of the reversal *a poor* itself. The rhythmic grouping cuts across the metre, and one of the ways it does so is by encompassing the reversal.

But it is worth remembering that the majority pattern is to accent both *poor* and *witless*; six out of nine readers do this, conforming to the speech rhythm default pattern. Yet these readers have the same rhythmic grouping as the deaccenters: though they do not deaccent, the form of the tension between rhythm and metre even for them derives from the phrasing as much as from the conflict of defaults. But the conflict of defaults - and the consequent metrical irregularity - may account for the low *incidence* of deaccentuation: compare this case with the metrically regular sequences in which the most frequently deaccented syllables occur (see 10.1.1).

Where non-lexical reversals occur mid-line, then, the conflict with the metre at the reversal itself is incorporated into the single rhythmic trajectory of the nucleus group it belongs to. The conflict may then extend its effect beyond the syllables of the reversal itself, possibly influencing the accentual pattern of adjacent syllables, and heightening the sense of departure from a regular pulse. Performance allows such a departure to take place at levels above those of the default patterns.

12.2 Weak ictic syllables

Table 6 - Keats: accentuation of weak ictic syllables

Text	Accent	Beat	Unprominent
and (line 3)	0	0	9
there (line 6)	6	1	2
them (line 12)	0	2	7
on (line 13)	0	2	7
in (line 14)	3	3	3

The cases dealt with under the heading of weak syllables occurring in ictic position are those of Attridge (1982:164)'s *promotion* (see 3.2); in these cases the mismatch between the metrical and speech-rhythm defaults is, unlike in reversals, confined to the one syllable. The speech-rhythm default cues deaccentuation of these syllables (and very often vowel reduction); metre cues accentuation. In everyday speech non-prominence is the norm for them. This being so, the presence of any kind of prominence - beat alone or pitch accent - must be regarded prima facie as an influence of the metre. Whereas to produce strong syllables with a beat but no accent is a *moving away from* the norm of accentuation, for weak syllables it is a *failure to reach* the norm of complete deaccentuation.

If we examine the figures for the five cases of promotion in the Keats data (Table 6) we find that as a whole they are given prominence by only a minority of readers: there are 45 potential prominences, but only 17 cases of any prominence being made. Metrical set therefore only affects performance of promotions at the margins. Nevertheless it does affect it. If the only evidence we had was the figures

for the performance of the promoted syllables themselves we might conclude simply that the speech-rhythm default, and not the metrical default, predominates in performance. This is true as a general observation, but it hides informative variations of detail. If we examine the individual instances we find that their contexts show the circumstances in which metre is most likely to influence the performance of promotions.

We can rank the examples in ascending order of the number of readers making some prominence. If we do we can also find a reason for the place each example has in the ranking.

and (line 3) is completely deaccented by everybody; we may compare it with *on* which two readers, Readers 3 and 5, give a beat to. *and* and *on* are alike in being the first of two proclitic syllables to a noun (*and a shroud, on this height*); the difference is that unlike *and*, *on* is not preceded by a main clause boundary. *and* begins a new main clause. Now Attridge gives as the usual context for promotion the occurrence of a weak syllable between two others; the promoted syllable is the middle of a row of three weak syllables. But here we have a major syntactic boundary between the first and middle syllables of the row (the unstressed second syllable of *chasms* and *and*; this seems to have the effect destroying the row's integrity so that the promotion is not observed in performance: *and* and the following *a* being manifest solely in their speech-rhythm role as clitics to *shroud.*

By contrast the prepositional phrase *on this height* is only one part of the adverbial element *Not only on this height* and is not at the beginning of it. All readers

produce this sequence with a single nucleus group, so that the sequence of three weak syllables, *-ly on this* has integrity as a context for promotion. This still gives a majority of readers (seven) who give no prominence to *on*; but of this majority three accent *this*, presumably as a contrastive accent (not only on *this* height,/ But...). This departure from the metre cued by communicative context breaks up the context for promotion by superimposing a pattern in which *on* is no longer the middle of three unprominent syllables.

But if we now look at *them* (line 12) we find the same incidence of prominence as for *on*: two readers (this time Readers 3 and 8) give *them* a beat. Yet *them*, like *and*, is next to the boundary of a noun clause which cuts the row of three weak syllables so that *on them* is separated from the following *that*. There is the difference, however, that *them* is followed, not preceded, by a clause boundary. The smooth progression of the row of three weak syllables is destroyed, but the context here is more ready to allow the middle syllable of the three to take a beat: it is the second of two weak syllables following a strong one - *tread on them*; it is enclitic not proclitic. Knowles (1974:126) observes that 'proclitics are rushed over on the way to the peak, while enclitics are lingered on'. The syntax ensures that the incidence of prominence on *them* will be low, but its position as enclitic to an accent means that it is easier than is the case with the proclitic *and* for some readers to introduce a beat here, even if they are in the minority.

With *in* (line 14), readers who give a promotion some prominence are for the first time in the majority. Moreover, half of that majority - three readers - actually give the word a pitch accent; pitch accents have not been used at all on any of the

examples we have discussed so far. *in* is proclitic to *world*, but unlike *and* in line 13 the row of three weak syllables, *but in the*, which are the context for the promotion of *in* are all proclitic to the noun: the syntax here does not break up the integrity of this row of three weak syllables as a context for promotion. We might therefore expect (cf. *on*) that some readers would give *in* a beat. But we would not normally expect an accent. The additional pressure that leads some readers into accentuation surely derives from the word's position near the beginning of the line. The pressure exerted by the metrical set to accent ictic syllables appears to increase for the first ictic syllable in a line in the case of weak ictic syllables just as it does for strong ictic syllables, which show increased resistance to deaccentuation in this position (see 10.1.1). But even *in*, with pressure to accent coming from the metrical set, its initial position in the line, and the integrity of its syntactic and rhythmic position, shows some equivocation. Three readers, Readers 1, 3 and 5, pronounce it - and its adjacent syllables - without any prominence, emphasising its rhythmic status as proclitic to *world*, and depriving the line of an initiation marker.

there (line 6) is somewhat less equivocal. It is the existential *there*, so we expect it to be unaccented, and its vowel to be reduced to schwa (Reader 7 renders it thus). But here it is given a pitch-accent by a majority of readers. Like *in* it is the first ictic syllable in its line, and the row of three weak syllables that provide the context for promotion, *And there is*, are all proclitic to the default accent on the adjective *sullen*. But what accounts for the higher incidence of pitch accents on *there* compared with *in*? Two readers, Readers 1 and 3, make the accent on *there* a nuclear accent. For them especially (though it is possible for any accenter of *there*) it is possible that it is being interpreted as an adverb: 'I look into the chasms, and a shroud/ Vaporous doth

hide them... I look o'erhead/ and *there* [too] is sullen mist'. This interpretation of the lines is perhaps slightly forced. But in any case the existential *there* is a somewhat untypical instance of a weak reducible syllable. It is graphologically longer than most weak monosyllabic words; in its citation form it has a long vowel; and there is always some echo of the word in its other sense as an adverb, in which sense it is a strong syllable.

In summary promotions usually, as Attridge claims, accelerate the metre in performance; weak ictic syllables are usually deaccented totally, in accordance with the speech rhythm default. But the syntactic context, or position with regard to an accent group peak or line boundary, of the promoted syllable, may be in harmony with the metrical set in such a way that a beat or (at line openings at least) a pitch accent becomes a possibility. If at line openings this possibility is not realised, this increases tension by depriving the line of a prosodic marker of its opening.

12.3 Accentuation of weak syllables in the MacNeice data

Table 7 - MacNeice: accentuation of weak syllables

Text	Accent	Beat	Unprominent
are (line 1)	3	2	5
(Ban)tu	2	0	8
So	2	1	7
are (line 16)	2	0	8

We can compare promotions in the Keats with those weak syllables in the MacNeice which have some incidence of prominence (Table 7), for which there is no metre to

exert pressure to accent. A metre does affect the accentuation of weak syllables, even if it influences only a minority of readers. But we find that weak syllables in the MacNeice are made prominent only where there are clearly identifiable reasons in the communicative context. *are* is, as we have seen (10.1.2), accented in line 1 only by those readers treating *The further-off people are the smaller* as a statement of principle rather than of empirical fact; and in line 16 by the one reader who so treats it (Reader 16), and another (Reader 14) who gives *are* a contrastive accent: 'despite the statement made in the first line, the further-off people *are* sometimes the larger'. The accentuation of the second rather than the first syllable of *Bantu* by Reader 14 reflects disagreement over which syllable carries the lexical stress - *Collins English Dictionary* allows both possibilities. *So*, accented by Readers 10 and 15, is an untypical example of a weak syllable, less deaccentable as conjunctions go than, say, *and*. It has here a cohesive function: the principle established in the first stanza is illustrated in the second; *So* links the two stanzas. It may be compared with *Yet*, another cohesive marker which links the poem's antithetical first and second halves: I here treat *Yet* as a strong syllable but, conversely to *So*, more deaccentable than most strong syllables. In terms of inherent deaccentability *Yet* and *So* are close together, even if they belong in different categories; arguably closer to each other than either is to the central members of their own categories.

12.4 Strong remiss syllables

Table 8 - Keats: accentuation of strong remiss syllables

Text	Accent	Beat	Unprominent
Man(kind) (line 5)	0	0	9
o'er(head) (line 9)	0	0	9
Man(kind (line 7)	0	0	9
Thus (line 11)	8	1	0

Strong syllables in remiss (excluding those which are part of a reversal) are Attridge's *demotions* (1982:168) where despite their status as accentable syllables they realise a metrical offbeat. In our terms the metrical default cues deaccentuation but the speech-rhythm default does not.

Our sample of syllables of this type allows us to infer little that is generally applicable about the performance of demotions. The sample (Table 8) is not only a small one; three of the four we have are untypical examples. The two occurrences of *Man(kind)*, and *o'er(head)* are the weak elements of compounds; compounds, moreover, which are so familiar that they are virtually words in their own right, so that *Man-* and *o'er* are *de facto* lexically unstressed syllables. They consequently fit easily into the remiss, and unsurprisingly are accented by no-one.

The remaining example, *Thus*, is also untypical of demotions, but in a different way. Because the adjacent *much* is a potential lexical deaccentuation *Thus much* is close to being a reversal. That is, there is a high likelihood that in performance *Thus*, being strong, will be accented, and *much*, being a potential lexical deaccentuation, will be deaccented, reversing the metrical pattern of prominence on these two syllables. A

true reversal would require the default patterns to conflict on both syllables, and this does not happen - *much* is both strong and ictic. But in practice all readers but one do accent *Thus* and deaccent *much*, overriding the metre in both syllables. The exception is Reader 6: he is the only one to deaccent *Thus* and the only one to accent *much*. This shows that a metrical rendering is possible, but the double speech-rhythm cue of the strength of *Thus* and the inherent deaccentability of *much* outweighs this for the other readers. Moreover, even Reader 6 gives *Thus* a beat; this still makes it a weak pulse compared to the accent on *much*, but at the same time gives a residual token of the word's strong status in the speech-rhythm default: the tension of the clash of defaults is brought out in performance.

Insofar as *Thus much* is a reversal, however, it is, being at the line-opening, an initial inversion, which as we have seen (12.1) Attridge regards as a smaller deviation than a reversal mid-line. The metrical set can be countered by inversion at a line-opening without disrupting it unduly. Here this countering resides more in the performance than in the text. And since four other lines of the poem have initial inversion we might say that the particular set for this poem incorporates initial inversion; its (anyway not strong) tension-creating effect is reduced by its familiarity here; so that to reverse *Thus much* in performance is less disruptive to the metre than it otherwise might be.

12.5 Weak remiss syllables

Table 9 - Keats: accentuation of weak remiss syllables

Text	Accent	Beat	Unprominent
(in)to (line 3)	0	2	7
me (line 8)	1	0	8
so (line 9)	1	0	8
I (line 11)	1	0	8
that (line 11)	7	0	2
I (line 12)	1	1	7
Is (line 13)	1	0	8
not (line 13)	1	0	8
this (line 13)	3	0	6

Both metrical and speech-rhythm defaults cue full deaccentuation here, so any prominence at all would be unusual. What we find (Table 9) is that those few prominences that are made usually have some strong contextual reason to be so: in this they resemble the prominent weak syllables in the MacNeice. And they also resemble them in having no tension at default level - the weak syllables in the MacNeice because there is no metrical pulse; the weak remiss syllables in the Keats because the speech rhythm and metrical defaults are not in conflict in these syllables.

For a reader to give prominence to a weak remiss syllable is rare. There are 66 weak remiss syllables in the poem. Just nine of these have any incidence of prominence. With nine readers this gives 81 potential prominences which could occur on one of these syllables. In fact there are just 19. Generally speaking, when a weak remiss syllable is made prominent, particularly if it is accented, the effect is to obscure the metrical set momentarily.

(in)to is, however, an exception: making *-to* prominent here reinforces the metrical set. As is discussed in 11.1, because *Collins English dictionary* marks the first syllable of this word as stressed I treat *into* as a lexical reversal - not altogether satisfactorily. And it is only by virtue of this that *-to* is in remiss. As we saw in 11.1, although it is the stressed syllable *in-* is very susceptible to lexical deaccentuation and is in fact deaccented by all readers. In all speech if *in-* is deaccented it is possible for *-to* to take a beat. When as here such a reversal of the lexical stress pattern of *into* would cause the rhythm of a performance to coincide with the metrical *set* by preserving the alternation of strong and weak pulses, then there is additional pressure to give some prominence to *-to*; a cue taken up by the two readers (Readers 1 and 8) who give the syllable a beat. The majority, however, who make the whole word unprominent, are doing no more than speed up the underlying rhythm momentarily; almost a promotion. The metrical set can coexist with this.

me and *so* are both idiosyncratic examples from Reader 9. In the first case he accents both *beneath* and *me*, juxtaposing two accents on syllables of opposite metrical status; this may be to contrast *me* as the complement of *beneath* compared with *the earth* as the complement of *before* - if so content is certainly brought out at the expense of metre. In the second case he momentarily mistakes the words *Even so* as being the stock conversational phrase consisting only of those words, rather than the beginning of a much less predictable adjective phrase *Even so vague*. In the stock phrase *Even so Even* is conventionally the more deaccentable word, so that *so* normally gets the accent of the phrase by default.

that, the only weak remiss syllable accented by a majority of readers, is preceded and followed by a comma. It begins a noun clause; the preceding comma separates the noun clause from the verb, *know*, of which it is the object. Then *that* is divided from the subject of the noun clause (*I*) by a noun phrase functioning as an adverbial - *a poor witless elf*; the second comma separates off this noun phrase. The accentuation of *that* is for all who make it a nuclear accent, and usually preceded or followed - in four cases both - by a pause. The syntactic reasons for this are clear, but it also has a very sharp counteracting effect on the metrical set. Since the line also contains the uncertainty of the accentual pattern of *Thus much* (see 12.4), and the reversal *a poor* (see 12.1) - and for Reader 3 the accentuation of *I* - the metrical set may virtually disappear for the line's duration. The readers making the deaccentuations associated with the reversal *a poor* are all among those who accent *that*; their performances of the line maximise its complexity. *that* is also the first of the two weak syllables *that a* which constitute the double offbeat that 'pairs' (Attridge 1982:176) with the juxtaposed beats *poor wit-*. Accenting *that* destroys this effect, an effect Attridge regards as a means of preserving the underlying rhythmic pulse through a reversal. The two readers - Readers 5 and 7 - who do not accent *that* have neither of the deaccentuations associated with the reversal (of *poor* and *wit-*); and so they preserve the pairing.

I (in lines 11 and 12) and *Is* (line 13) are accented by Reader 3 (and Reader 4 makes a beat on *I* in line 12); these accentuations seem idiosyncratic. *I* (line 12) and *Is* are both line-initial. We have noted before that line-openings can attract accents in otherwise unexpected places, but this was where the accent could be accounted for in metrical terms: it was the first *ictus* of the line. It is curious now to find accentuation

on a line-initial weak *remiss*. Reader 3 may be treating the line more as a discoursal than as a metrical unit, so that the fact of the syllables' being in remiss does not weigh heavily in his considerations, and he simply places an onset at the earliest possible opportunity in the line; but it is curious to find weak syllables accented at all when strong ones immediately follow (*I tread; Is mist*) which are better suited to carrying the onset, and which are both also accented by Reader 3. Moreover, his accentuation of *I* in line 11, which neither is line-initial nor follows a major syntactic boundary, suggests that this may be a mannerism rather than a line-initiation marker.

not forms part of the stock collocation *not only*. The one accenter of *not* is Reader 2, who is also the only total *de*accenter of *only*. In connected speech the common patterns for this collocation are indeed to accent either *not* or *only* but not both; the majority here accent *only* - which is consistent with the metre. For Reader 2 a common modification of the speech rhythm default overrides the metre, even though the defaults do not conflict.

this is a case of contrastive accent: 'not only on *this* height,/ But [also]...'. This accentuation fits well into the context - the contrast is the point - and three is a relatively large number of accenters for a syllable of this type. But the metre runs counter to this accentual pattern; and two thirds of the readers do not make it. Now it is also true that the contrast could be of two kinds. One presupposes that 'the world of thought and mental might' is also a height: the comparison is between *this* height and another. The other possibility is that the comparison is between this *height* and something which is not a height. In the latter interpretation contrastive accent on *this* would not be appropriate. But it may well also be that the metre influences the

majority choice to deaccent *this* regardless of whether readers also find this better fits their interpretation of the sense.

Section III: Pitch patterns

Chapter 13

Previous studies of pitch patterns in verse recitation

In this chapter I give a brief survey of those studies of verse prosody which have examined pitch patterns rather than or as well as patterns of prominence. If studies of accentual patterns in verse have scarcely moved beyond the default patterns to those of recitation, studies of pitch patterns in verse are altogether rare; and those which have been undertaken have largely been *ad hoc*, constructing no solid theory. Yet in verse recitation the pitch patterns are very striking: like metre they form recurring patterns, but unlike metre do not do so to a regular formation.

The importance of pitch patterns in ordinary speech and verse recitation was observed by Joshua Steele (Steele 1775) but subsequent writers have hardly taken the question up. Steele's book was written to refute the claim by Lord Monboddo that English speech has no variation of pitch, but that prosodic prominence was signalled solely by loudness. Monboddo, in his *The origin and progress of language*, had asserted that: 'we have accents in English, and syllabic accents too; but there is *no change of the tone in them*; the voice is only raised more, so as to be *louder* upon one syllable than another.' Steele made what he called 'the following systematic attempt to prove the contrary.' (1775:2-3) He observed that 'the *melody of speech moves* rapidly up and down by *slides*, wherein no graduated distinction of tones or semitones can be measured by the ear'. (p. 4) He suggested testing this proposition by having a bass viol player imitate speech melody by sliding the left hand rapidly up and down the fingerboard while playing a note with the bow; this, he said, would show

> 'That the sound or *melody of speech* is *not monotonous*, or confined like the *sound of a drum*...
>
> [and] 'That the changes of voice from *acute* to *grave*, and *vice versa*, do not proceed by pointed degrees coinciding with the divisions of the chromatico-diatonic scale; but by gradations that seem infinitely smaller (which we call *slides*)...
>
> [and] 'That these *changes are made* not only *upon words* and *upon sentences*, but *upon syllables and monosyllables*.' (p. 17)

In his analysis and system of transcription Steele kept distinct the linguistic levels of pitch, stress and quantity, arguing that although the words *accented* and *unaccented* were used to refer to stress, 'the proper sense of *accent* refers only to the melody of *acute* and *grave*, or diversity of tone' (p. 11). His transcription system is derived from musical notation, but shows the slides of speech intonation rather than the definite pitch of musical notes. He transcribed pitch movements by means of sloping and curved lines representing rises and falls in pitch. There are four symbols: 'Acute ╱ grave ╲ or both combined ∧ ∨ ' i.e. rise-fall and fall-rise, (p. 24) 'which lines... will easily shew [on the stave] through how many quarter tones the voice is to slide' (p.7). Steele pointed out differences in characteristic pitch patterns between regional varieties of English (e.g. p. 85) and used his system to analyse David Garrick's rendition of Hamlet's soliloquy (pp. 47-8).

Steele eventually convinced Monboddo of the existence of pitch patterns in speech but, although Steele had the better of the argument and although he paid some attention to verse, most subsequent analysts of verse rhythm have concentrated on the rhythmical beat to the exclusion of pitch patterns (see chapters 2 and 3); even though many of them acknowledge the existence of pitch accent, they are interested only in its

role in conveying prosodic prominence. They are concerned with measure to the exclusion of melody. As Abercrombie (1951) points out:

> 'the melody and measure are often called the *prosodic features* of speech... They are also the features which are important for *prosody* in the more usual sense of the word [i.e. the melody and measure of verse]. Not many phoneticians have ventured into prosody (neither have many prosodists ventured into phonetics)' (p. 41).

Thus there has been little appreciation of the importance of pitch patterns in verse. Moreover, those writers who have examined pitch patterns in verse have provided little enlightenment.

There have broadly been two kinds of study: those which see the study of verse prosody as a critical tool, a means of disambiguating verse, and those which examine the structure of verse prosody, both to show how it interacts with metre and with the discourse structure of the text, and to characterise it as a prosodic style distinct from that of other forms of speech.

13.1 Studies using pitch patterns as a critical tool

Chatman (1956a)is an early example of a study which attempted to use pitch patterns as a means of disambiguation. That it did so is probably now the least interesting thing about it. Chatman's article is significant as a pioneering attempt to use twentieth-century linguistics in the service of literary analysis, and as an early empirical study of verse rhythm whose analytical model foreshadows the present one (see 2.2.1). His analysis covered stress and accent patterns and their relationship with

metre; pitch patterns; and juncture (prosodic boundaries). His observations on intonation, however, are relatively small. For example he examines these lines from Robert Frost's *Mowing*:

> To the earnest love that laid the swale in rows,
> Not without feeble-pointed spikes of flowers
> (Pale orchises), and scared a bright green snake.

Chatman observes that

> 'I was unsure how to construe "scared a bright green snake". Only after reading it several times did I realise that "that" (referring to "love") ... was the subject of "scared". Frost's reading makes this immediately clear: he allows an overlong pause between "orchises" and "and" to compensate for the distance between verb and subject; one can distinctly hear him make a false start, and then pause.' (p.426)

Further on Chatman compares the poem's punctuation with the junctures made by his eight readers, concluding that 'punctuation often fails to guide the reader with any accuracy to the junctures a poet may have had in mind' (p.432). He examines the intonation of the question 'What was it it whispered?' which occurs in the third line of *Mowing*, observing that the readings are evenly divided between falling and rising juncture at the end of this question. Chatman suggests that this may reflect a difference of opinion over whether the question is a genuine wh- question that the persona asks himself or whether it is an echo question, repeating what we suppose has just been asked by the other participant in an imaginary dialogue.

Katharine Loesch later argued with Chatman (Loesch 1965, Chatman 1966, Loesch 1966) the question of how far particular pitch patterns can resolve, or deliberately refrain from resolving, syntactic ambiguities in verse.

Chatman, in his argument with Arnold Stein on how to perform some ambiguous lines of Donne's, (Chatman 1956b, Stein 1956) had claimed that it is necessary to choose one interpretation or another and use an intonation pattern to convey the chosen meaning; intonation should disambiguate. Loesch argues that 'linguistically-oriented discussions of poetry' are marred by the 'the "normal" intonations given the examples' (1965:259); she defines 'normal' intonations, following Robert Stockwell, not in a statistical sense but as 'citation patterns' of intonation, those which occur by default if no attempt is made to convey marked meaning by means of intonation. A reciter has, however, more patterns than the 'normal' to choose from. Loesch's view is that, though intonation may disambiguate an utterance, this is never obligatory:

> 'There are, clearly, many instances where syntactic selection may take place through the choice of a disambiguating intonation - one that marks a particular syntax and excludes whatever alternatives were present before the addition of intonation. But it is rarely, if ever, the case that only disambiguating intonations are available. A non-disambiguating intonation is always available as well.' (p. 260)

This is valuable as an assertion that a wide variety of intonation patterns is available for performing a given line of verse, and implies that we should not be categorical in ascribing meanings to intonation patterns. This in turn, I suggest, argues against the worth of discussions of the meanings of alternative intonation patterns for a given line, but Loesch, having argued her position, then indulges in such a discussion. She not only asserts meanings but postulates hypothetical intonation patterns. For example in the following lines by Dylan Thomas:

I see you boys of summer in your ruin.
Man in his maggot's barren.
And boys are full and foreign in the pouch.

She postulates intonation patterns for the second line using the Trager and Smith system as follows (there are four significant levels of pitch, 4 being the highest and 1 the lowest; | indicates a juncture with sustention of pitch, and # a juncture with falling pitch; for the stress symbols see 2.2.1):

3 /1 3 / ^ 1
Man # in his maggot's barren#

would, she claims, convey this line as a noun phrase (i.e. the *'s* is a possessive, and *barren* is deviantly used as a noun), whereas

2 ^ 3 / 4 / 1
Man in his maggot's | barren#

would convey (reinforced by a holding articulation of the t) it as a whole sentence (with the *'s* standing for *is* and *barren* an adjective)

3 /2 2 3 / 2 4 / 1
Man | in his maggot's | barren#

and

3 ^ ^ / 1
Man in his maggot's barren |

would be non-disambiguating intonations (p. 263).

Can we be as certain - of the uncertainty of the non-disambiguating patterns as well as the certainty of the disambiguating ones - as this? To be so is inconsistent with Loesch's final statement that we should go beyond 'hermetically sealed-off logical discussions [and] rigid preconceptions about what the language permits, applied in

bits and pieces' (p.267). In any case, to invent intonation patterns in this way is simply not a sensible procedure: real ones, when we subsequently encounter them, will almost certainly be various; and perhaps the invented ones will never be heard in reality: useful hypotheses cannot be derived from invented patterns.

Chatman in his reply conceded that he might have gone too far in implying that, when an ambiguous line is recited, intonation ensures that the ambiguity *cannot* be sustained - he had merely observed that it *was not* by his reciters of the lines by Donne. But against Loesch's assertion that a non-disambiguating intonation is 'always available' he commented '"Always" strikes me as a pretty strong word' (1966:284). The problem with this view is that, while it is true that we should be wary of asserting that any phenomenon 'always' takes place in speech, it is also impossible to know that a firm meaning will be attached to any pattern in something as nebulous as intonation. It is likely that any pattern will be found ambiguous by somebody. Chatman did, however, make the sensible suggestion of conducting a controlled experiment on informants to find out which intonation patterns they find ambiguous.

Funkhouser (1979) used an acoustic analysis of twenty-one readings of Randall Jarrell's *The death of the ball turret gunner* (including Jarrell's own) to 'supplement traditional criticism of the poem': 'Actual performance of poetic conventions such as enjambment, caesuras, fulcrums can be empirically verified, rather than simply asserted'. The purpose of her experiment was 'isolating and analysing some of the components of poetic rhythm and relating these performance features to possible interpretations of the poem' (p.381). The problem is that too much is inferred from the prosodic features of the readings. For example she observes of the twenty readings

apart from Jarrell's that their longest pause occurs 'just before the final line, "When I died they washed me out of the turret with a hose"' and states baldly that 'The readers' feeling of shock at the graphic, physical details presented in the final line accounts for the pause for emphasis before the line.' (p.402) Funkhouser considers the occurrence of a long pause as in itself sufficient evidence to infer an emotional reaction, and to assume that the pause is 'for emphasis'.

Brazil (1992) classifies the degree of *engagement* with a text made by a person reading it aloud, believing the degree of engagement to be positively correlated with the closeness of the reader's intonation to the intonation of conversation: minimal engagement would be shown in the intonation used to read a list of citation forms. In verse reading, a default performance would have very little engagement - 'one-tone-unit-per-line is probably more common' (p.213); and such a reading ignores contextual considerations. The next level up of engagement makes significant choices of tone-unit boundary placement and nucleus placement, but gives most nuclei level, or in Brazil's terminology neutral, tone. A reading of this kind Brazil calls 'ritualized oblique reading' (p.216). When reciters make significant choices of tone as well as of the other variables then they are, according to Brazil, engaging in an imagined conversational context for the poem.

Cauldwell and Schourup (1988) identify a number of purposes for studies of oral readings of verse, including their own purpose of inferring from oral performance meanings additional to the ones recoverable from the written text. They castigate previous investigators, especially Funkhouser, for too easily assuming a causal connection between prosody and meaning. Their solution is to use an analytical

system for intonation whose meanings have been independently established. They use the model of Discourse Intonation developed by Brazil (1975) and Brazil, et al. (1980), with its *proclaiming* (fall or rise-fall), *referring* (fall-rise, rise) and *neutral* (level) tones. Proclaiming tone indicates new information, referring tone given information. Similarly Cauldwell (1994), in an analysis of Philip Larkin's various recorded readings of his poem *Mr Bleaney*, uses a discourse intonation analysis to comment on critical controversies about the poem. The problem here is that while it is true that one can too easily assume a causal connection between intonation patterns and meaning, trying to avoid this by using a previously established system of intonational meanings necessitates a properly critical attitude to that system. Discourse intonation is a relatively simple analysis: Cauldwell could profitably examine whether simple tone labels could be refined when they are applied to poetry. For example Cauldwell comments on the clause *He stayed/ The whole time he was at the bodies till/ They moved him*. In all five of Larkin's recordings he renders the words *the bodies* with a referring (rising) tone. These words are spoken by a landlady to a prospective tenant about the previous tenant. Cauldwell believes that the choice of referring tone

> 'indicates that the landlady assumes the persona knows what *the Bodies* is ...[referring tone] closes the door to further explanation... An anxious-to-please prospective lodger would find it difficult to query this assumption without risking offence. It would have been easier for the prospective lodger to query this assumption if there had been a p[roclaiming] tone on *bodies* as the meaning conveyed by the p tone does not involve assumptions about shared understandings.' (p.164)

All rises and fall-rises are simply labelled r tone, but complex inferences about meaning are then made from this simple label without further investigation. The

intonation theory, despite Cauldwell's claims for the critical utility of investigating oral performance, in fact supplies little of the critical commentary he gives.

13.2 Studies of the structure and characteristics of pitch patterns in verse

An early study of this type was Mukařovský (1933). Like Steele 150 years before, Mukařovský complained that most investigations of verse rhythm confined themselves to the question of the metrical beat, in particular the question of isochrony, and that this had led to studies only of small fragments of verse 'where, perhaps, isochrony can most easily be perceived or recorded by laboratory apparatus' (p.153). Mukařovský believed that a study of intonation patterns would tell us more about the structure of verse prosody. He argued that the peculiarity of verse is that it contains two potential determinants of intonation: the verse form and the language the verse contains. In French syllabic verse, for example, the verse form dictates the location of a caesura in each line; a reciter may use a tone group boundary to mark this caesura. On the other hand a line may contain a major syntactic boundary not located at the metrical caesura, which a speaker might also want to mark with a tone group boundary. There is then a tension between two potential intonation patterns. It is this tension, Mukařovský believed, which differentiated the intonation of verse from that of prose.

The implication of Mukařovský's paper is that the question worth studying about verse prosody would be how verse form and discourse structure exert their respective influences on poetic intonation in practice. Very little on these lines, however seems to have been done. There were as we have seen (2.2) studies of the relationship between accentual patterns and metre, and there were the 'disambiguating' studies of

intonation. But generalisations about the intonation of verse seem to have had to wait for Jakobson (1960), a paper which was not confined to prosodic questions, and consequently could not do more than make a few remarks on the subject. Jakobson observed that intonation has metrical significance in free verse such as Whitman's but that this is also true of metrical verse as well, for example in Pope's 'intentional avoidance of enjambment' in *The rape of the lock*. In other words, intonation patterns contribute to our sense of the integrity of the line. Jakobson went on to say:

> 'Yet even a vehement accumulation of enjambments never hides their digressive, variational status; they always set off the normal coincidence of syntactic pause and pausal intonation with the metrical limit.' (p. 365)

The observation about the 'normal coincidence of syntactic pause and pausal intonation with the metrical limit' was echoed by later writers. Taglicht (1971:118) observed that:

> The majority of line-ends in a poem, but generally not all, coincide with tone-unit boundaries; the last stress in most but generally not in all lines bears a nuclear tone. Additional nuclear tones and tone-unit boundaries may also occur within the line.'

Crystal (1975a) believed that defining metre and metrical variation solely in terms of stress patterns was inadequate, and suggested that intonation should be added to the definition. This would allow the underlying patterns of free verse to be brought within the scope of metrical study. Crystal suggested that the line is the main intonational domain in verse except in cases of enjambment. He analysed some recording of recitations and found that 80% of the lines spoken contained only one tone group.

Prudence Byers has made more detailed investigations of the nature of poetic intonation. She analysed recordings of six speakers reading both poetic and non-poetic texts (Byers 1979) drawing up from her findings a list 'of the intonational qualities particularly characteristic of poetry' which 'will constitute a rudimentary formula for poetic intonation':

Slow speech rate
+
Short tone units
+
More pauses
+
Relatively equal-length units
+
Low average pitch
+
Narrow pitch range
+
Simple falling melodies
+
Simple falling nuclei

} = Poetic intonation

(p.373)

This formula is intended to define a 'standard' poetic intonation from which poets will depart in individual ways. The paper ends with a suggestion which it is worth quoting at length:

> But this formula is something besides a basic recipe for standard poetic intonation. It is also a clue to the origins of rhythm in non-metrical poetry. Most readers regard even non-metrical poems as more rhythmic than non-poems, but it is often difficult to explain why this is so. One answer, unquestionably, is that most "non-metrical" language, including poetry, contains lines or portions of lines that are metrical, and that in a poetic context these are more readily perceptible than they are elsewhere. But the present description of normative poetic intonation suggests that in poetry the stress-group, or metrical foot, is not the sole unit of rhythm - that the tone-unit also functions as a rhythmic unit. Tone-units in poetry are, we have seen, more nearly equivalent in duration than units in non-poetry, and this means that they come closer than units in non-poetry to being regularly recurrent in time. And

> they are also more nearly alike melodically than those in non-poetry. They differ less in pitch, melody, and tone-type, and this makes them more nearly equal events than those in non-poetry. The sequence of units in poetry, therefore, is closer to being a regular recurrence of equal events than the sequence in non-poetry, and it is therefore closer to being rhythmical.'

and

> 'What the present "formula" suggests is that, perhaps because such repetitions and parallels are traditional in poetry, writers and readers regard purely intonational correspondences as appropriate there as well, and try to produce them whether or not the other parallels are actually present.' (p.374)

It is 'correspondences' between intonation patterns in verse recitation which are the focus of my investigation of pitch patterns which follows.

Byers (1980) is a study of onset height in '24 samples of prose, poetry and conversation', which derived the following general pattern:

> 'Roughly, the pattern is this: The first onset in the initial unit in the utterance in unusually high. Then come one or two lower ones. Then comes another, higher than the previous one but not as high as the first, and again one or two lower ones. And then comes an unusually long pause. This is the typical "phonic sentence" or major unit; actual ones can have more or fewer components, as long as they follow the rule implicit above - that every high onset should be followed by at least one lower one.' (p.4)

Byers then lists typical syntactic cues for high onset, such as the initial onset in an utterance, the beginning of an independent clause and the beginning of a set of parallel structures. She suggests that this list can be used in the analysis of poems to predict where high onsets will come in recitation; if we predict a pattern which violates the general rule that high and low onsets alternate this can show textual structures which are foregrounded in some way, or if the onset sequencing is very irregular this may indicate a tone which is more conversational and less prototypically poetic.

Byers (1983) examined non-metrical verse to see whether the line of verse was signalled intonationally in recitation. She created a distorted version of a poem (James Dickey's *Pines*) in such a way that the word *sound* appeared in six different contexts, the variables being whether or not it was at a line boundary, followed by a punctuation mark, and at a likely tone group boundary (from the syntactic point of view). Analysing eighteen recordings of this construct, she concluded that in general the line boundary as such did not contribute to the intonation. Tone group boundaries cued by punctuation and syntax were not manifested any differently if they happened to occur at line ends. The only slight effect of line ends on intonation was that 'a minority of speakers... produces pause when a tone-unit boundary occurs at line-end, whether punctuation is present or not.' (p.30)

Finally Wichmann (1987) examined the prosodic style of verse recitation using texts from the Spoken English Corpus, finding that in the poem she examined 'The tone group boundaries are consistent with lines or half lines (except in cases of enjambment)' (p.54) that 'The rhythmic patterns find their parallel in repetitive pitch patterns' (p.55). Moreover, taking the poetic texts in the Corpus as a whole 'the average number of level tones is the highest on the scale [of all text types], and the group also contains the text with the highest percentage overall' (p.27).

One striking thing about all these studies taken together is how few of them there are, especially compared with the vast number of studies of metre. Easthope (1983) felt it necessary to express disappointment that Attridge (1982) did not 'start from the principle of the line in its intonation contour' (p.246) in his analysis of verse

rhythm even though this idea had existed since the Russian Formalists. Another notable characteristic of those studies of verse intonation that have been carried out is that none seriously questioned the utility of traditional theories of intonation for the analysis of verse. In the next few chapters I take up this question.

Chapter 14

Problems with previous methods of classifying pitch patterns

This chapter deals with the shortcomings of existing models of pitch patterns in speech as means of analysing the pitch patterns that can be heard in recited verse. In chapter 8 I looked at some of the problems of the tone group as a single prosodic grouping which embraces rhythm, pitch and juncture. This chapter continues that analysis, looking particularly at the problems of classifying the shapes of pitch contours when the latter are tied to accentual patterns. In the next chapter I propose a new classification scheme for pitch patterns which attempts to overcome the problems identified here.

This chapter criticises the tonetic stress mark (TSM) system of broad transcription for intonation. This system is the common one for the transcription of an analysis into tone groups of the British tradition, and is used for the Spoken English Corpus. It consists of a set of marks which simultaneously indicate prominent syllables and also the pitch movements associated with each accented syllable (which may be spread over following syllables as well). The symbols are:

◟ Fall	◡ Fall-rise
◝ Rise	◠ Rise-fall
– Level	· Prominent but unaccented syllable

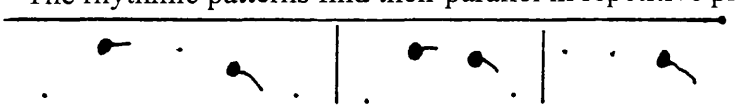
Each of the accent types can be high or low: this is shown by the symbol's position above or below the line.

As well as these symbols, upward- and downward-pointing arrows are used to indicate a marked upward or downward reset of pitch at the beginning of a contour. Narrow transcriptions are also used; these show the detail of every pitch movement.

14.1 The problems of analysing pitch patterns in verse recitations

If we are to examine the pitch patterns of verse recitation we need to classify them according to criteria relevant for the patterns that exist there. Yet existing systems do not do this satisfactorily. The impression we get, from listening to recitations, of pitch patterns in verse is of a series of recurring patterns, somewhat mannered in comparison to the intonation patterns of informal speech: whereas in informal speech individual words are emphasised by the configurations of pitch accents, in verse it is whole contours which are foregrounded. Pitch patterns constitute a system of recurrences additional to those of the metre, and unlike the metrical beat pitch patterns vary in length, providing a system which counterpoints the metre. Wichmann (1987:55), in her analysis of a recitation of Sir Henry Newbolt's *The Nightjar* found that

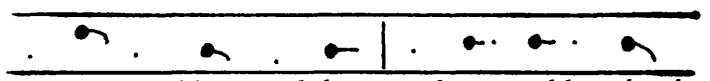
'The rhythmic patterns find their parallel in repetitive pitch patterns:



and wave-like markings like sea ripples on the sand

Sometimes there is repetition of a sequence of patterns:

So wonderful she was, her wings the wings of night



But powdered here and there with tiny golden clouds

The repetitive pattern of the first example is a repetition of whole contours: it consists in the rise in pitch at the onset as well as the fall in the nucleus - and in the case of *on the sand* the initial rise is on an unaccented syllable.

In later work which does not deal specifically with verse Wichmann (1991) discusses the phenomenon of pitch patterns which imitate each other. 'By "imitating" I mean that they are perceptually the same or similar. In the case of complex tones (fall-rise) the imitation may involve only the terminal contour (the rise).' This imitation marks them as 'in some way equivalent, or at least not sequentially related' (p. 166): there is usually some grammatical relation between the constituents encompassed by each contour. A clear example is:

...British government o/fficial |↓Peter/Vinter

where the grammatical apposition of two noun phrases with the same referent is mirrored by both noun phrases being spoken with rising tone. (Wichmann 1991:171)

A less obvious example is:

|| he¬told/miners |. at a·meeting in/Chatham in\Kent last·night|

The clause is postmodified by the long prepositional phrase beginning with *at*. The prosodic signal that this phrase belongs with the rest of the clause is that the rise on *miners* is echoed by the rising portion of the fall-rise extending over the three syllables *Kent last night* (p.174). Now the nuclear tone of the second tone group in this example is classed as fall-rise because by definition the nucleus is a property of an accented syllable, and any pitch movements that follow the accented syllable are considered to be determined by it (see 8.1). Consequently a 'fall-rise' as a variety of pitch accent is traditionally regarded as an indivisible whole. But if half of a fall-rise can parallel an entire pitch accent of another type then clearly nuclear tones are not indivisible, and we should review the principle of classifying tones as accent types, a principle which ensures that the pitch movements making up a nuclear tone are considered as a single entity. Further evidence is provided by Wichmann in the following:

↓though the ¯Anglicans still ¯talk ↓↓about_doing as· much as ˊpossible with other· churches

Here a level tone parallels a rise (the nuclei are the underscored parts). But as Wichmann points out, the second nucleus is spread over many more syllables than is the first; it is difficult to maintain perceptually level pitch over this many syllables, so the existence of rising rather than level tone in the second tone group may be no more than a consequence of the text the pitch contour has to be mapped onto here; the nuclei are not categorically different but have been annotated as such.

14.1.1 Recurring pitch patterns in an SEC text

The sense one has from listening to recited verse, however, is that pitch contours imitate one another constantly, that the recurring pitch patterns bind the entire text together; imitation is not an occasional device but fundamental to the prosody of verse. Yet, as I now wish to show, the practice of classifying entire pitch patterns by the shape of their nuclei, and the Tonetic Stress Mark system of broad transcription, obscure the recurring patterns. To illustrate this I take a text from the poetry section of the Spoken English Corpus, *Eunice* by John Betjeman, read by Betjeman himself. The broad prosodic transcriptions in the TSM notation which are quoted are taken from that provided with the SEC. The narrow transcriptions, which can be compared with the TSM ones, are my own.

Eunice

With her latest roses happily encumbered
  Tunbridge Wells Central takes her from the night
Sweet second bloomings frost has faintly umbered
  And some double dahlias waxy red and white.

Shut again till April stands her little hutment
  Peeping over daisies Michaelmas and mauve,
Lock'd is the Elsan in its brick abutment
  Lock'd the little pantry, dead the little stove.

Keys with Mr. Groombridge, but nobody will take them
  To her lonely cottage by the lonely oak
Potatoes in the garden but nobody to bake them
  Fungus in the living room and water in the coke.

I can see her waiting on this chilly Sunday
  For the five forty (twenty minutes late)
One of many hundreds to dread the coming Monday
  To fight with influenza and battle with her weight.

Tweed coat and skirt that with such anticipation
  On a merry spring time a friend had trimm'd with fur

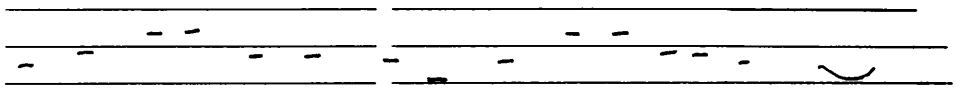
Now the friend is married and, oh desolation,
Married to the man who might have married *her*.

High in Onslow Gardens where the soot flakes settle
An empty flat is waiting her struggle up the stair
And when she puts the wireless on, the heater and the kettle
It's cream and green and cosy, but home is never there.

Home's here in Kent and how many morning coffees
And hurried little lunch hours of planning will be spent
Through the busy months of typing in the office
Until the days are warm enough to take her back to Kent.

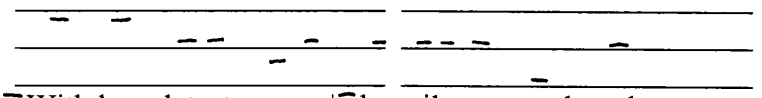
Except for line 27, which is recited with a single tone group, the tone groups marked in the broad transcription are co-extensive with half lines, and are of equal length. The auditory effect of Betjeman's recitation is of a series of repeated short progressions of pitch from high to low. This, however, is not fully brought out by the TSM transcription. The problems of the transcription are these:

1) Contours with different nuclei are treated as categorically different, even though there may be quite a lot of similarity between them in the head:

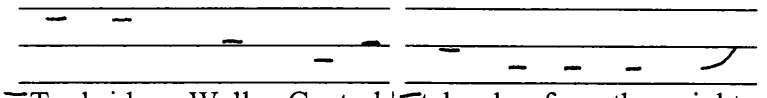


The first tone group of this pair is in traditional terms classified as having falling tone, and the second a fall-rise. But despite this undoubted difference we can see that both contours have heads which start high and move by gradual steps to low; it is only in the nuclei that they differ. And the head takes up most of the contour in each case. But despite this it is the difference in the nucleus which is traditionally regarded as decisive - enough to classify these contours as wholly and irrevocably different.

2) Where contours have the same nuclei there may be additional similarity between them in the head which may - again because the head is normally longer than the nucleus - contribute more than the nuclei to the sense that the pitch patterns are the same, and perhaps imitate each other. The first four tone groups identified in the transcription of the SEC, for example, are these:



With her _latest ⁄ roses | happily en ⁄ cumbered



Tunbridge _Wells ⁄ Central | takes her from the ⁄ night

All have low rising nuclei; the TSM's mark this equivalence. But all also have falling heads. The heads have obvious differences of detail: pitch movements differ, and the first and third movements have a pitch accent between onset and nucleus which the second and fourth groups do not. But all resemble each other in having a gradual fall through the head from high to low - this equivalence is obscured by the transcription. Yet the falling heads are surely an important part of what defines these four tone groups' structure and their sound.

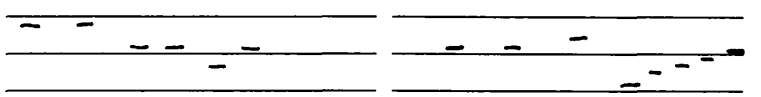
3) By tying pitch patterns to accentual patterns, the analytical model which the TSM notation represents can mask the fact that different types of nucleus are not necessarily *categorically* different, but only in degree. For one thing, different types of nucleus may overlap because they share a feature, as Wichmann (1991) noted in the case of rise and fall-rise. In the following example the similarity between the pitch

movements in different contours is obscured by the way the distinction between rise and fall-rise assigns pitch movements to different parts of the tone group:

— with her_latest/roses

that with∨such antici .pation

The first example has a high level onset and a low rise nucleus; the second has no head and hence no onset, and a high fall-rise nucleus. There seems no similarity here. However the contours are actually:



with her latest roses that with such anticipation

Here the similarity of the two pitch contours, the way both contain a fall in pitch from high to low and both end in a rise is made clear. What is also made clear is that the TSM transcription *cannot* show this similarity since in the first case the fall from high to low takes place in the head, while in the second it takes place in the nucleus; and to appreciate the similarity we have to split that nucleus into its component parts and consider the fall separately from the rise.

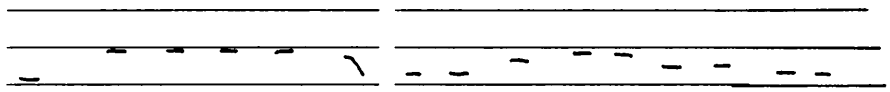
This suggests that the TSM model obscures recurring pitch patterns by showing pitch and accentuation in the one system of notation. The nucleus by definition realises a pitch accent; in the TSM system, therefore, its symbol has to be tied to the accented syllable; consequently where, as in the case of *such anticipation* a nucleus is realised over several syllables, the symbol cannot show the detail of this and so cannot allow us to scrutinise the individual pitch movements which constitute the nucleus. This preoccupation with accentuation has also allowed details of the head 'that can be

made the subject of conventions [to be] left unmarked' (Kingdon 1958:xxix), again obscuring details which might be relevant in assessing a pitch pattern, however useful it has been as an economical transcription for teaching purposes.

4) The previous problem - that the TSM system treats different nuclei as categorically different - has the further consequence that the system cannot acknowledge *degrees* of similarity. In:

I can .see her waiting | on this chilly Sunday

the pitch contours of the two halves of the line audibly imitate each other. There is the similarity of the heads. But there is also the relative nearness of the admittedly different nuclei, a low level tone on *waiting* and a low rise on *Sunday*; the two contours are, even in the nuclei, not as far apart as all that. However, this effect is also audible in:



and when she puts the wireless on | the heater and the kettle

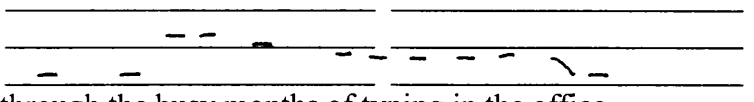
but here the relative proximity is between a low *fall* on *wireless* and a low level on *kettle*. Level tone can, it seems, work in partnership with a rise or a fall. Yet rising and falling tones *are* opposed: they are opposite pitch movements. The difference between level tone and either rise or fall is less than that between rise and fall. To classify the pitch patterns of verse we need a system which indicates the relative nearness of different pitch patterns.

5) One final problem with traditional analyses of intonation for classifying pitch patterns in verse is that what are clearly identifiable as single *pitch* contours sometimes cross traditional tone group boundaries. For example the last two lines of *Eunice* are shown in the prosodic transcription of Betjeman's reading as three tone groups, thus:

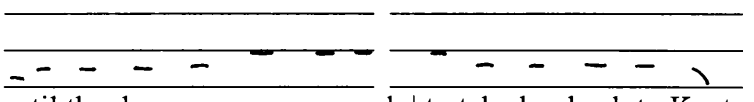
through the ¯busy · months of _typing in the \office

until the · days are ¯warm enough | to _take her back to \Kent

The first tone group of the three is the only one in this reading which fills a full line instead of a half line; the other two tone groups conform to the pattern of the rest of the poem. However pitch actually runs as follows:



through the busy months of typing in the office



until the days are warm enough | to take her back to Kent

Each line of verse consists of a rise to a peak followed by a falling away. This similarity is obscured by the interposition of a tone group boundary after *enough* (probably cued by the pause that occurs there), since if we have a tone group analysis we naturally assess the behaviour of pitch in each tone group separately: Crystal (1969:143), for example, measures the degree of pitch movement shown by syllables by reference to the onset of the tone group each syllable is in.

After examining the pitch parallelisms in her data Wichmann (1991) concluded that 'The inconsistencies here, if such they are, are a result of the theoretical assumptions of the tone system' (p. 175). And 'The problem is therefore to construct a theoretical framework which allows a relationship between any elements in non-adjacent tonegroups and possibly also between non-equivalent elements (such as onset and nucleus).' (p.177)

14.1.2 Previous part-recognition of the problems

Some writers have taken account of the problems raised here, but without 'construct[ing] a theoretical framework'; the problems themselves are not new ones, even if the need for a solution to them is still not widely recognised. Bolinger (1986) for example identifies three fundamental shapes of pitch accent. Accent A is essentially a fall, often preceded by a step up:

```
      /
     Jo
It's   hn
```

Accent B is a rise or a jump up (often the jump up to an onset):

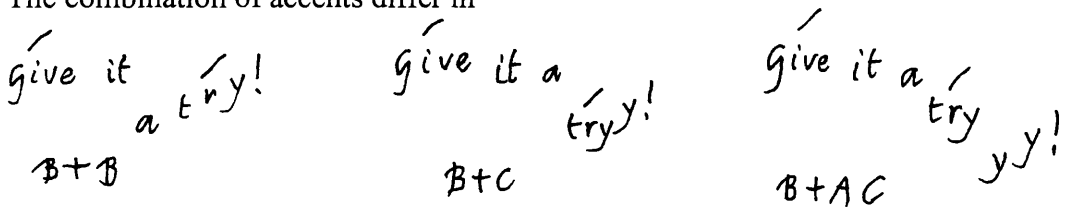
```
      /  hn
It's Jo
```

Accent C is a drop to low pitch followed by a rise:

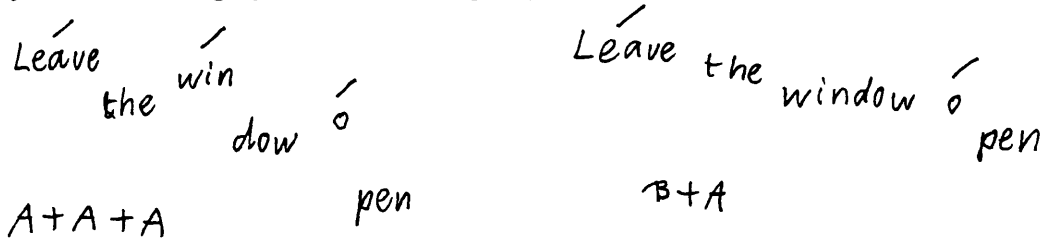
```
It's
      /hn
     Jo
```

There can also be accents which are combinations of these, for example AC would be a fall-rise (p.141).

Intonation *contours* are concatenations of these accent profiles. Bolinger defines a contour as 'the shape of a complete intonation. Contours are to profiles more or less what sentences are to words' (p. 254). Now, although contours are composed of profiles, they also 'have a life of their own' because profiles are *accent* profiles, but the behaviour of unaccented syllables contributes to the overall shape of contours. Consequently 'one may readily have contours that contain different profiles but display a similar overall shape, if the unaccented syllables are appropriately arranged.' The combination of accents differ in



'yet all have roughly the same U shape' (p. 256). And in



there is an 'overall similar shape... where a tangent to a succession of A profiles has the same slope as that of a B + A contour'.

Despite resemblances such as these, Bolinger believes that contours are best defined in terms of the accents they contain: even where contours are similar 'The profile differences nevertheless shine through'; those differences are explained in semantic terms. However Bolinger's purpose - to explain the communicative

functions of intonation in conversation - differs from ours - to classify prosodic patterns in verse recitation and to explore their interrelations. To concentrate on accents probably is preferable for the analysis of conversation, where individual words are singled out and have an intonational meaning overlaid on them. In verse we are concerned more with intonational melody as a prosodic system that works alongside rhythm to create a total effect. It is a question of emphasis: conversation has a (less stylised and foregrounded) melody, and verse recitation can use pitch accents of specified shapes to bring out individual words. But in classifying pitch patterns in verse we need to be able to draw together similar contours (whatever their accent profiles) in our classification system, and not merely *ad hoc*.

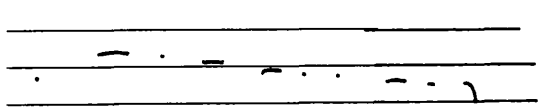
Quirk and Crystal (1966) established that there is some gradience in the contrast between different nuclear tones. They played a recording of a short utterance to 46 informants, and asked them to repeat it. They then compared the repetitions with the original and, where discrepancies existed in nuclear tones, used the proportions of each tone produced by the informants at that point as an index of how different each is perceived as being from the original: the smaller the proportion, the greater the difference was deemed to be. They concluded that

> 'the polarity is most extreme between fall and rise: the distinction between these two has clearest phonological status, with a contrastiveness most resembling that between, let us say, voiced and voiceless consonants in English phonology or between singular and plural in English grammar. A fall may be replaced by a rise-fall... but it is very unusual to find it replaced by a rise. The other pole, the rise, has slightly less stability, and it can be replaced by a fall fairly readily as the second part of a correlative sequence, though such replacement seems rare elsewhere.
>
> By contrast, the fall-rise admits replacement by both fall and rise quite frequently, and we find it three times replacing a rise [and] twice replacing even a rise-fall...'

We need, then, a classification system for pitch contours which acknowledges the *varieties* of similarity between contours that other classifications have regarded as different (Bolinger acknowledges the fact of similarity but sees no need to systematically classify its manifestations), and which can indicate the *degree* of similarity between contours, as Quirk and Crystal tentatively do for nuclear tones.

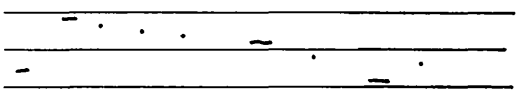
14.1.3 The whole-tune approach

There is, in studies of English intonation, 'a long-established tradition' (Laver 1994:484) of examining the shape of whole pitch contours instead of, or as well as, the individual prosodic features, prehead, head, nucleus and tail. The foundation of this approach to intonation analysis is to group the infinite number of possible intonation contours into a few basic 'tunes' (e.g. Armstrong and Ward 1926, Jones, 1918, Halliday 1970). If, however, we examine this tradition with a view to adopting it for the analysis of the kinds of similarities between contours that we have outlined, we find that it too concentrates too heavily on accentuation. Armstrong and Ward, for example, have two tunes, I and II. In the basic form of Tune I 'The stressed syllables form a descending scale. Within the last stressed syllable, the pitch of the voice falls to a low level' (1926:4). That is, there is a falling head followed by a low falling nucleus, for example:



They came to call yesterday afternoon

In the basic form of Tune II 'The outline of the first tune is followed until the last stressed syllable is reached. This is on a low note, and any syllables that follow, rise from this point.' But the rise is 'very gradual and rarely reaches as high a note as the first stressed syllable' (p.19). In other words a falling head followed by a low rising nucleus, for example:



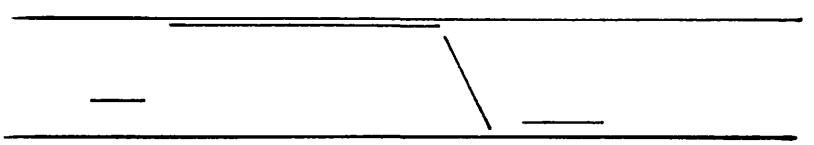
I'm sorry to have kept you waiting

They acknowledge the partial identity of the basic forms of the two tunes, manifested in the head, but take no account of it in deciding the type of contour; whereas the much less extensive difference in the nucleus is sufficient to cause them to be categorised as different types of contour. The nucleus carries weight in this analysis, although we have seen that in Betjeman's reading of *Eunice* there are pitch contours with different nucleus types which have extensive similarities in the head. Halliday does rather better than Armstrong and Ward in handling this problem: his system includes the notion of **secondary tone**, a categorisation of variation *within* the basic patterns which are Halliday's primary tones. This system can capture *degrees* of resemblance between similar contours, including resemblances within the head, but Halliday, like Armstrong and Ward, defines his primary tones according to the type of nucleus ('tonic'):

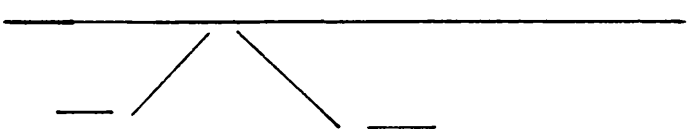
> 'The primary tones are differentiated from one another by the pitch movement **in the tonic segment**...So when we say that tone 1 is "falling", we mean that in any utterance having tone 1 the pitch in the tonic segment will be falling... Pitch movement in the pretonic is significant; but it distinguishes secondary tones, not primary tones.' (Halliday 1970:8-9)

The system of secondary tones can capture similarity between contours whose nuclei differ, but only to a limited degree: some secondary tones represent finer distinctions of types of nucleus, for example tone 1 - falling - can be a wide, medium or narrow fall; but in Halliday's system similarity in the head would not allow two contours to be classified alike if the *direction* of pitch movement in the nucleus differed, even if the heads were identical. Thus in Halliday's analytical system it would be easy to overlook parallelisms of this kind.

O'Connor and Arnold (1973) use both the feature and whole tune approaches: they examine the varieties of prehead, head, nucleus and tail, then look at the ways these combine into tunes. They have ten tone group types, most of which have several manifestations: the large number of different patterns are grouped into the ten basic tune types. Thus the principle of fundamental likeness, despite differences of detail, is embedded in their system. Moreover, it is not always the type of nucleus which distinguishes the type of tone group. For example tone group type 2 (the High Drop) has as one of its forms '(Low Pre-Head+) High Head + High Fall (+Tail)' (p.133), for example:



Type 6 (The Long Jump) has as its only form (Low Pre-Head+) Rising Head + High Fall (+Tail) (p. 191):



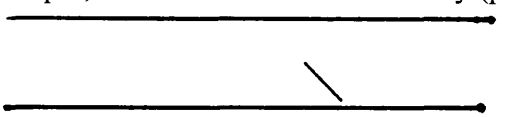
The two types of tone group are distinguished only by a difference in the head: high versus rising. Compare, for example,

' Next \ Sunday *(High Drop)*

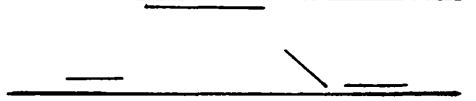
and:

↗ Next \ week *(Long Jump)*

But for the most part it is the nucleus which defines each type of tone group: it is always the type of nucleus which is the one common element of the different manifestations of the same tone group type. Tone group 1, the Low Drop, for example, can consist of a low fall only (p. 106):



or at its maximum, low pre-head + high head + low fall + tail (p. 119):



Compare: \ Yes

and At ' Baker ' Street \ station

There is an affinity of course - both tunes have a low falling nucleus; but we cannot assume that an affinity existing only in the nuclei is *necessarily* as great as that between contours which resemble each other in every particular but the nucleus. The latter type of resemblance would not be 'noticed' as similar at all by O'Connor & Arnold's classification; particularly if we were to look for resemblances in data transcribed by tonetic stress marks, which can mask any resemblances whose essence is contained in the unaccented as well as the accented syllables.

14.1.4 ToBI

The system of Tones and Break Indices (ToBI) is a system of representing intonation patterns which is based on the system devised by Pierrehumbert (1980). ToBI is an adaptation of the Pierrehumbert system specifically designed for the annotation of intonation patterns in computer corpora of spoken English. It is described by Ladd (1996:94) as 'a proposed standard for labelling prosodic features of digital speech databases of English', and it has indeed become widely used, largely supplanting tone group analysis of the British tradition for this purpose. For various reasons, however, it does not suit the annotation of the stylised contours of verse recitation, if their particular characteristics are to be properly explored.

The system is 'first of all a set of conventions for labelling prosodic features' (Ladd 1996:95); it is used to annotate the waveform principally at two levels, *tones* and *break indices*. The tones map pitch movements and pitch accents onto the fundamental frequency waveform. The break indices provide 'a way of impressionistically indicating the strength of word and phrase boundaries' (p. 94).

The system of tones divides the continuous pitch contour into a string of pitch accents, each associated with one syllable, followed, at the end of each contour, by two kinds of *edge tone*, a *phrase tone* and a *boundary tone*. The body of the contour is regarded as only a succession of pitch accents; no attempt is made to organise these into constituents such as 'head', 'nucleus' and so on; 'for Pierrehumbert, the "nuclear accent" is merely the last accent of the phrase' (Ladd 1996:81). The pitch accents are themselves analysed into level tones, each of which is in context labelled either H[igh]

or L[ow]. This system allows the contour to be annotated as a particular level tone at any point, but also allows a pitch movement, represented by a configuration of levels, to be associated with a single pitch accent. This means that the dispute in American linguistics in the 1950's, on the relative merits of representing pitch patterns by significant pitch levels and by configurations of pitch movements, is no longer relevant.

In Pierrehumbert's original theory six pitch accent types were identified. In each case the starred tone is the one that is actually aligned with the accented syllable; any other tones in each accent type might be aligned with preceding or following syllables, but are nonetheless regarded as properties of the accented syllable (cf. the nuclear tones of the British tradition). The six pitch accent types are summarised by Ladd (1996) as follows:

> 'H* is a local peak aligned with the accented syllable and L* is a local valley, and L* + H is an accent contour that is low for a good portion of the accented syllable of the accented syllable and then rises sharply, often into the following unstressed syllable if there is one.' (p. 83)
>
> 'Two further pitch accent types, L + H* and H + L*, are typically characterised by movement from a preceding syllable, rather than (as is the case with L* + H) movement to a following one. This is exactly what the notation suggests: the starred tone of these two accents is the central one, aligned with the accented syllable, while the unstarred tone is a "leading" tone, which will normally determine the pitch of a preceding syllable if there is one (pp. 83-4).
>
> 'The last of the six pitch accent types, H* + L, indicates a high accent that triggers downstep in the following H tone... In the H* + L... the L has no phonetic interpretation other than as a downstep trigger.' (pp. 85-6)

In adapting the Pierrehumbert system, ToBI has modified the annotation for downstep by introducing a diacritic, /ꜜ/, placed before the affected tone, to indicate downstep, rather than leaving it to the inherent property assigned to a pitch accent

type. As well as this the H* + L tone has been merged with H*. Hence the succession of two pitch accents that Pierrehumbert would annotate as H* + L... H* would in ToBI be annotated as H*... !H*. According to Ladd 'this makes it clear that the level of the accented syllable is not necessarily low in the speaker's range, but only lower than what precedes' (p. 96). It thus clears a confusion which had arisen among transcribers of corpora.

Of the edge tones, each contour has one phrase tone and one boundary tone, in that order: 'the last pitch accent of each phrase is followed by two distinct tonal events' (Ladd 1996:88). Both phrase tone and boundary tone are either H or L, phrase tones being represented simply by the appropriate letter, boundary tones being distinguished by the symbol %. The L phrase tone is defined as 'low pitch following the final pitch accent of the phrase', which is sustained until either a rise on an H% boundary tone or a further fall on an L% boundary tone (Ladd 1996:88). The H phrase tone is 'a high pitch following the last pitch accent' (p. 89); if the last pitch accent is a rise an H phrase tone could mean a continued rise.

The boundary tones represent the way the contour ends. The H% boundary tone represents a final rise: a rise to an H tone after an L phrase tone, or an implied further rise after an H phrase tone. The L% boundary tone 'can best be described as indicating the absence of final rise' (Ladd 1996:88). After an L phrase tone it represents a fall to the speaker's baseline; after an H phrase tone it represents a level sustention of the pitch of the phrase tone, the contour ending with a sustained level pitch.

ToBI uses five break indices. These are 'a way of impressionistically indicating the strength of word and phrase boundaries' (Ladd 1996:94). They represent 'five possible boundary strengths, from 0 (the greatest degree of phonetic integration between two words, i.e. the weakest boundary) to 4 (boundary between intonation phrases)' (p. 96).

Although it is beginning to establish itself as a standard for the annotation of intonation patterns in corpora, ToBI has not been used for the annotation of pitch patterns in the present work. The reasons for this are essentially two. First, however representative the tones are of the distinctive types of pitch accent in a contour, and of the distinctive types of terminal contour, a string of symbols for individual tones is not especially expressive of the overall shape of a contour when appreciated as a whole. It is, however, this overall shape as a unity which strikes the listener to a verse recitation: the delivery comes over, at the level of intonation, as a series of whole tunes which bear a greater or lesser resemblance to each other *as* whole tunes, and which encompass whole phrases of the text. If the pattern of an entire contour is cited by means of a series of annotations for the individual tones in it, it is not easy to form an impression from this of the contour and its entire shape. In discussing the pitch patterns of verse we need a label for each pitch pattern which conveys concisely an impression of the shape of the whole contour.

Second, the break indices owe much to the juncture phonemes devised by the previous generation of American linguists (e.g. Hockett 1958, Trager and Smith 1951) to represent prosodic boundaries. The juncture phonemes were labels for prosodic phenomena which their inventors could undoubtedly hear in the data they had to

transcribe. They were nonetheless abstractions, labelling in each case a single 'strength' or 'size' of boundary on the evidence of a complex of prosodic features that occurred at a boundary point. This was a reasonable procedure to use given the technology of the time: the complex of prosodic features had to be reduced to a manageable set of categories. But it seems extraordinary that, in a system expressly designed for the annotation of computer corpora, the architects of ToBI should still use a set of 'impressionistically' produced labels 'indicating the strength of word and phrase boundaries'; that they did not exploit the power the computer gives to store and synthesise large amounts of complex data by annotating separately the raw prosodic features of boundaries - pauses, pitch resets and so on - then using the machine to match combinations of these features to the various syntactic and other boundaries of the texts stored. This would make it possible to test theories (that is, impressionistic judgements) about what categories of prosodic boundary appear to be used. For example break index 4 is used by definition for intonation phrase boundaries, but what precisely are the prosodic features that are used at intonation phrase boundaries? If a particular combination of features cluster there this would be evidence for the existence of break index 4 as a natural category. In the present research, then, I prefer to label and store the raw prosodic discontinuity features separately.

14.2 Requirements of a scheme for classifying pitch patterns in verse recitation

The problems we have identified with traditional methods of classifying pitch patterns we can now distil as a set of requirements which a method more suitable for our purposes should fulfil.

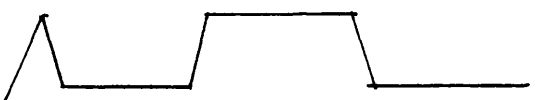
1) Pitch contours should be classified by the shape of the whole tune, and not only that of the nuclear tone or of a series of individual tones.

2) The classification system should systematically encode any similarity which exists between non-identical contours, of the kind whose existence Bolinger acknowledges, but does not systematically encode in his classification scheme. This is the kind of similarity discussed by t'Hart, et al. (1990:59) when they argue that

> 'contours that lack mutual perceptual equivalence may still give rise to the impression of a kind of similarity at a higher level of abstraction... the various melodic shapes in a language can be subdivided into a limited number of "melodic families"'.

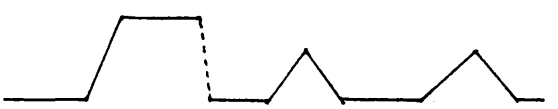
Later (p. 83) they exemplify this with examples from Dutch (accented syllables are underlined):

(4) De vergadering heeft drie uur geduurd
(The meeting has three hours lasted)

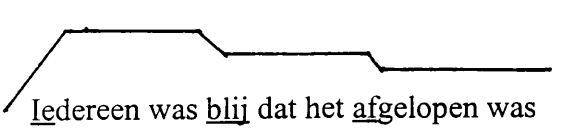


(5) Iedereen was blij dat het afgelopen was
(Everybody was happy that it finished was)

The authors state that 'listeners will intuitively feel a strong resemblance between the contours of (4) and (5)'. Then, in the case of:



(6) De vergadering heeft drie uur geduurd

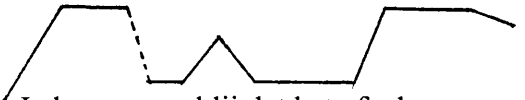


(7) Iedereen was blij dat het afgelopen was

They argue that

'Despite the increasing diversity, listeners will still consider the contours in (6) and (7) as very similar. Moreover, they will feel that (6) and (7) resemble (4) and (5). In other words, according to listeners' intuitions, the contours in (4) to (7) form a "family". However, if the same utterances are intoned as in (8) and (9), the intuitive similarity is lost.

(8) De vergadering heeft drie en een half uur geduurd
(The meeting has three and a half hours lasted)



(9) Iedereen was blij dat het afgelopen was

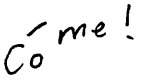
'In this case, no resemblance is felt between (8) and (9), and neither of them is intuitively related to the contours in (4) to (7). In other words, (8) and (9) belong to different "families" of contours.'

3) Cases of resemblance such as these need to be classifiable according to the *degree* of resemblance, from nil to exact repetition; and according to the *form* any resemblance takes. The need to classify by degree of resemblance is self-explanatory. As to form of resemblance, we need to be aware of several such forms.

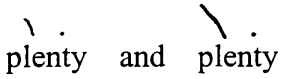
There is of course the traditional one of contours which have the same nuclei, both ending in, say, a fall or a rise. And there is also the very close resemblance between high and low manifestations of the same nuclear tone. Bolinger (1986:256) draws attention to 'the constancy of profiles regardless of pitch range:

Cóme! Cóme! Cóme!

'These differ in degree of tension and degree of conclusiveness', but are more like each other than any of them is to a rise. The first of these is 'more similar to either of the others' than it is to:

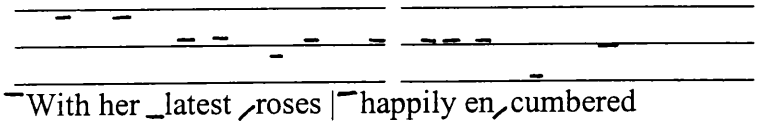


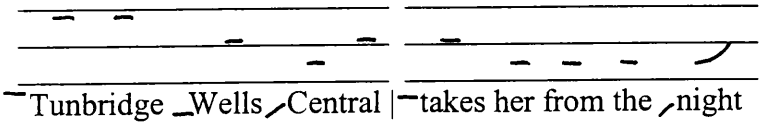
'despite the latter's similarity in terms of height and range.' This likeness is also recognised by Armstrong and Ward (1926:45) when they deal with the widening of pitch range to convey greater intensity, and give both



as examples of tune I; and by Halliday (1970:9) when he writes of '*tonic secondary tones* [which] are the finer grades of pitch movement in the tonic segment: for example, within the primary tone 1 (falling tonic) we can distinguish, as secondary tones, a wide fall (high or low), a medium fall (mid to low) and a narrow fall (mid-low to low)'.

A more complex type of resemblance occurs when two or more contours, over their whole length or in large part, consist of the same general trend of pitch but with differences of detail; the contours can be reduced to the same essence. We saw this in the first four contours of Betjeman's reading of *Eunice*:





All four contours consist of a fall from high pitch to low, then a final rise: this is their essence. But they differ in their realisation of the fall component: the first and third contours have gradual downsteps from the onset to the initiation point of the rise; the second maintains a level high pitch then drops down sharply immediately before the initiation point of the rise; and the fourth drops down immediately after the onset on *takes*, then maintains low level pitch until the final rise.

The principle of identity in essence despite differences of detail is used in the analysis of music by Lerdahl and Jackendoff (1983) in their notion of *time-span reduction*. Their argument is that 'some musical passages are heard as ornamented versions, or *elaborations*, of others' (p. 105). For example it is usual in music for themes to be given an initial statement or *exposition*, then elaborated or developed; and the main themes of the exposition can be clearly discerned in the development however much they are altered. Time-span reduction is a gradual filtering out of the ornamentations and elaborations so as to bring out the essential identity of the 'elaboration' passage and the original that it elaborates. (Further reduction can bring out the essential unity of an entire piece in matters such as key.) When we acknowledge the essential identity of the forms of the pitch contours cited above, we are 'seeing through' the detail in a similar way. Time-span reduction is a principle which has been used to some extent in analyses of prosody. For example it lies behind the classification of types of head used by Crystal (1969:229-31). He has four main head types, falling, rising, falling-rising(-falling) and rising-falling(-rising), but the first two are subdivided into four and two subtypes respectively. For falling heads, for example, one subclassification is whether the syllables of the head fall steadily or as a

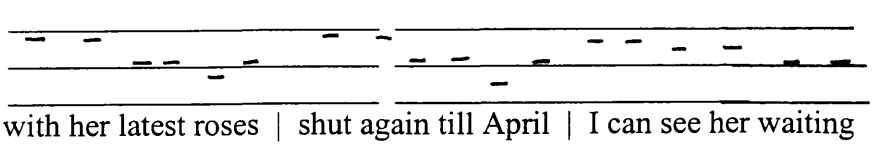
series of steps: both these subtypes can be classified as falling heads by virtue of their general trend; they can be reduced to falls in pitch. we need to classify whole contours in a way which specifies the kinds of variations on a common theme which exist in our data.

4) The classification system should draw together similar concatenations of pitch movements even when they contain different distributions of pitch *accents*. We have seen an example of this need in the similarity in pitch pattern between a jump down followed by a rising nucleus on the one hand and a fall-rise on the other in *With her latest roses* and *that with such anticipation* - the pitch movements are the same; it is only the accent points (not part of the pitch contour as such) that differ. A different aspect of this problem occurs in the case of accentable syllables in the middles of contours. Some of these will have a pitch accent, some only a rhythmical beat and some nothing but word stress (see 9.1) yet despite these differences may realise the same pitch movements. For example in *Eunice* we have:

¯with her _latest /roses ¯shut again till /April

and ¯I can ·see her _waiting

late- has a pitch accent, *-gain* word stress only and *see* a rhythmical beat. But it is the differences, not the similarities, which are brought out by the TSM transcription. The heads of all three contours, however, consist of gradual downsteps to the accent points of the nuclei (and two out of three nuclei are rises); *late-, -gain* and *see* are in the middle of the downstepping:



with her latest roses | shut again till April | I can see her waiting

Similarity exists between the heads of these contours even though the syllables discussed have a different accentual status in each case. As in Gregorian chant the same melody has to be fitted to different accentual patterns.

14.2.1 Previous objections to a whole-tune approach

A classification system for whole contours along the lines I have proposed could answer objections which have been made in the past to whole-tune analyses of intonation.

First, Couper-Kuhlen (1986:71) has argued that

> 'Despite its eminent suitability for didactic purposes, the tune approach to intonation imposes a rather rigid frame on the melodic line. Although the tune categories established may be adequate for the description of one variety, they are hard to transfer to the description of other varieties without loss of descriptive adequacy. Characteristic tunes often vary from dialect to dialect and transferring whole melodies from one to the other inevitably involves the distortion of reality to make it fit pre-established patterns.'

This problem could be solved if the characteristic melodies of different varieties were classified as different where they differ, but also as *similar enough* to be linked with their equivalents in other varieties. If our system allows any new tunes that are discovered to be classified readily, rather than assuming that a few basic tunes cover all possibilities, there is no reason why the system should impose a 'rigid frame on the melodic line'; individual elaborations will be allowed for. Basic patterns and a large number of subtypes can all be included in the scheme, and their interrelations specified.

Second, Cruttenden (1986:56) argues for the primacy of the nucleus in classifying pitch patterns. He compares

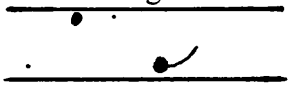
Why did you do that?

and

He hasn't gone

stating that although the prenuclear segments are 'clearly different', 'a certain similarity of meaning remains because of the occurrence in each case of a wide fall (one on *that* and the other on *gone*) at the end.' But in

He hasn't gone



the utterance is 'gentler and more tentative when said with a rise than when said with a fall.' This is true; but the identity of the heads of the two patterns for *He hasn't gone* remains: could not this identity (especially, perhaps, the high onset) also give similarity of meaning as it undoubtedly gives similarity of form? Why should the 'certain similarity of meaning' which remains when two contours have identical nuclei but different heads be any greater than when the reverse is true? And if it is, it does

not follow that the classification of pitch patterns should be founded on nuclei, provided that the shape of nuclei can be taken into account in any more widely-focussed classification system. Of course there is affinity between contours with identical nuclei. But we should classify pitch patterns in such a way that affinity between contours in their nuclei, or their heads, *or both* is flagged in the classification.

Chapter 15

A classification scheme for pitch patterns

At the end of the previous chapter I set out the requirements of a classification scheme for pitch patterns in verse recitation. In this chapter I describe the scheme constructed according to these principles which is used in this study, and give an overview of the pitch patterns to be found in our corpus of recitations. The full annotation of the data by the classification scheme can be found in the appendix.

15.1 The annotation of pitch movements

In classifying pitch patterns, I follow t'Hart, et al. (1990:72) in assuming that 'the smallest unit of perceptual analysis is the pitch movement'. Whole tunes are composed of individual pitch movements. The use of a database allows us to perform easily the reconciliation between 'atomistic' and 'global' analyses of intonation that t'Hart and Collier (1975) advocated: we can annotate both 'atomistic' pitch movements and 'global' contours and provide links between them which show the associations between the two.

This raises the question of how to annotate pitch movements. As Cruttenden (1986:xiii) points out, the 'tadpole' and TSM notations are respectively 'roughly analogous to the broad and narrow transcriptions of segmental phonology'. We would therefore expect the narrow transcription to show us the phonetic detail we need for the detailed representation of pitch movements; and indeed it shows for every syllable

its pitch level relative to the extremes of the speaker's pitch range, and the direction of pitch movement on and between syllables. It is, however, a visual analogue of pitch: interpreting it depends crucially on seeing the pitch of each syllable in context, how near to the extremes or midline it is, and how far above or below the pitch of other syllables; it is in this way that we abstract from it the shape of whole contours. Within the limits imposed by the top and base lines a continuously variable contour - passing through an infinite number of different pitches - can be shown.

It is in the nature of analogues (though not of their essence) that they treat continuous and not discrete entities. A database management system is designed to treat discrete entities, so that continuous ones, if they are to be stored in a database, must in some way be digitised. The two essential qualities shown by the 'tadpole' transcription are, as we have seen, the *level* of pitch and the *direction* of pitch movement; we need a notation system which will show these qualities for each syllable meaningfully whether we are examining the record for a single syllable or for a sequence.

Each syllable, then, is annotated showing its pitch level and direction of movement with regard to its predecessor. Glides are treated as multiple pitch movements occurring on a single syllable; the syllable's record is associated with two or more pitch movement records in a one-to-many relationship (see 5.1).

The nature of digitisation means that we have to forgo the ability to transcribe an infinite number of different pitches. We may not need an infinite number; but the number we do need will vary from place to place. A gradual rise, for example, will be

realised by a number of syllables each higher than its predecessor; and there may be many or few of them. We cannot predict in advance exactly how many pitches we will need for any particular transcription. Moreover, to have a predetermined set of pitches, as in musical notation, implies that they are absolute pitches, that two syllables marked as having pitch *x* have pitches which are perceptually identical. Whereas music uses absolute pitch the intonation of speech uses only relative pitch. This fact and the constraints of using a database force us to adopt a set of broad pitch levels.

The pitch levels used are absolute for each speaker's pitch range - references to the top, middle or base lines are to the top, middle or bottom of the pitch range used by a speaker for the particular recitation. The pitch levels are not pitch phonemes of the type used by Pike (1945) or Trager and Smith (1951). Lieberman (1965) found that linguists had difficulty in making consistent prosodic transcriptions using the Trager and Smith system, but it is easy to suspect that this tells us more about the Trager and Smith system than about linguists' ability to judge pitch. Bolinger (1951) famously criticised the Trager and Smith pitch phonemes on the grounds that it is impossible, if the pitch phonemes are defined not according to any absolute pitch but only relatively to each other, to tell them apart unless they are all present in an utterance; and in any case it is difficult to say where one ends and the next begins. If the pitch phonemes are held as a self-defined system in linguists' minds, and utterances measured against the internalised system, it is unsurprising that the linguists' judgements vary over time - the measure of consistency Lieberman uses.

We can, however, annotate the absolute pitch within each speaker's range and still maintain comparability between speakers. As Crystal (1975b:77) argues, 'we might plausibly argue that a soprano is "doing the same kind of thing" as a bass speaker in producing a particular pitch contrast'; even though the absolute frequencies of their voices obviously differ, the recognisable extremes and middles of those ranges may be used for the same purposes, yet are 'absolute' pitch levels in a physiological sense.

What, then should our broad levels be? Halliday (1970:9) uses five pitch levels: '*pitch height* [can be] *high, mid-high, mid, mid-low* and *low*... The terms for pitch height... do not imply any fixed musical intervals; and they are, of course, relative to the natural pitch of the speaker's voice.' Halliday, however, gives us little idea of where the bounds of the five levels are.

Like Halliday I will use five levels of pitch which I will call top, high, mid, low and base. They are defined as follows:

Top and **bottom** are the extremes of pitch range in one recitation of a text.

Mid is on the midline of a speaker's range, tending neither above nor below it.

High and **low** are broad categories, tending above and below the midline respectively but not reaching the extremes.

The *direction* of each pitch movement is annotated as being a movement up or down from, or remaining on the same level as, the end point of the previous pitch movement (see appendix).

Bolinger (1951) argued for transcribing intonation by means of configurations of pitch movements rather than pitch levels. But the use of the database means that there is no need to make an either-or decision about this. If we have pitch levels founded on absolute pitch, and indications of the direction of movement as well, we can use both fields of data to retrieve information on the configurations of pitch movements and the range within which they operate. Sometimes it will be the two fields together which give us the information we want: pitch movements between levels are shown by the change of level; pitch movements within the broad high and low levels are shown by the movements field (see appendix).

15.2 The classification of whole pitch contours

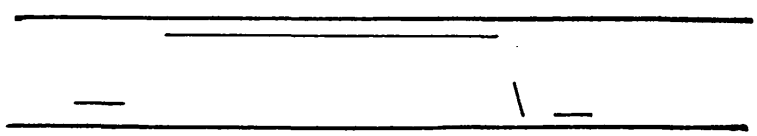
The system for classifying whole contours assigns each contour to one of a small number of broad categories; the broad categories are subdivided according to the finer detail of the pitch patterns assigned to them.

The classification is of the pattern displayed by the pitch movements of a contour from its first pitch prominence onwards. This will normally be the onset: Gussenhoven (1985) regards preheads as free variants whose nature in any instance is not part of the definition of a pitch pattern's type; preheads, then, are not normally used to define a tune. If, however, the prehead is pitch prominent, it will contribute to

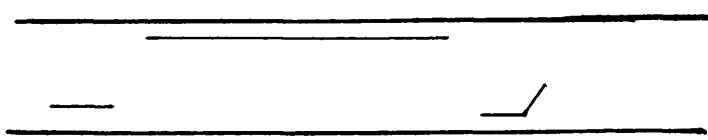
the pitch pattern's definition. Preheads by definition contain no accents. However, as Wichmann (1991:98) observes, unaccented syllables can be pitch prominent. She observes that the up- and down- arrow symbols, used to mark syllables which step unpredictably and sharply up and down in pitch, are not applied only to accented syllables. When they are applied to unaccented syllables they 'indicate a syllable which is prominent only in terms of pitch and not for reasons of vowel quality, duration or loudness.' When syllables in a prehead are pitch prominent in this way they contribute to the definition of pitch pattern type; however when, as is often the case, the onset is at the same pitch as a pitch prominent prehead the prehead, though it technically contributes to the classification of the contour, is in fact redundant for this purpose.

15.2.1 The first level of classification

To outline our classification system we can begin with two of the tunes used by O'Connor and Arnold (1973). The *low drop* consists in its fullest form of low prehead + high head + low fall + tail (p. 119):

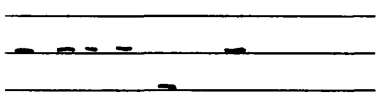


(The *high drop* is similar but with a high fall instead of a low fall.) The *low bounce* consists in its fullest form of low prehead + high head + low rise + tail (p. 159):

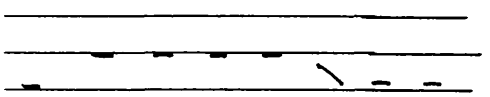


Because the nucleus of the low bounce is a *low* rise there must be a jump down from the high head to reach the initiation point of the nucleus; the low bounce, then,

resembles the low drop not only in what comes before the nucleus (low prehead, high head) but also in having a drop from high to low following the head. This is the resemblance we have noted between contours with falling and rising nuclei in Betjeman's *Eunice*:

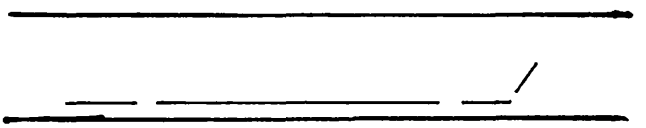


happily encumbered

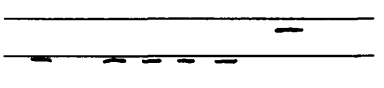


And when she puts the wireless on

Now let us consider the *take-off*. This consists of low prehead + low head + low rise + tail (p. 152):



This also occurs in Betjeman's reading of *Eunice*, for example:

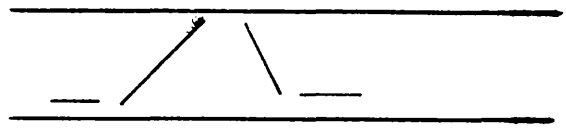


stands her little hutment

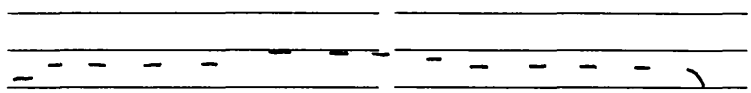
This has some similarity to the low bounce in that they both end with a rise, although they differ in what precedes the rise; the take-off, however, bears no similarity to the low drop, with its high head and end fall. But as we know there is a similarity - the fall from high to low - between the low drop and the low bounce. We now have, then, two criteria by which pitch contours may be classified: ± high-to-low fall and ± final rise. The low drop has a fall, the take-off a rise and the low bounce both. Hence the

low drop has some affinity to the low bounce and the low bounce has some affinity to the take-off, but the low drop is wholly different from the take-off.

Another criterion of classification is a rise at the beginning of a contour. An initial rise is a feature of O'Connor and Arnold's *long jump* (low prehead + rising head + high fall + tail) (p. 191):



An initial rise is also found in the following contour in *Eunice*:



Until the days are warm enough to take her back to Kent

This contour (which spans two of the tone groups marked by the original SEC transcriber) has a fall after its initial rise; having a final fall, it overlaps with the pattern of the low drop.

We now have three criteria by which we can classify contours: initial rise, high-to-low fall and final rise. We can show the four of O'Connor and Arnold's tunes we have mentioned in a table with their matrix of classificatory features shown as binary digits:

Feature:	Initial rise	Fall	Final rise
Low drop	0	1	0
Low bounce	0	1	1
Take-off	0	0	1
Long jump	1	1	0

We can classify any pitch contour according to whether or not it possesses each of the three features shown, and assign a binary code in each case. The broad characteristics of the entire contour can then be encoded by quoting the three binary digits in order: '010', '011', and so on.

In a rough and ready way this coding system allows us to test for resemblance between contours. If two contours have identical coding, some resemblance exists between them. If they do not have identical coding they may nonetheless share one or more features, for example contours coding 010 share a feature with those coding 011 but not with those coding 001. The question is whether the shared feature(s) give an impression of resemblance between the two contours taken as a whole. If we compare an 010 contour with an 011 contour we find that resemblance exists until the end, when one ends with the fall they share and the other has a final rise. If we compare an 010 contour with a 110 contour we find that they start differently but then converge, by both falling in the latter part of the contour. 010 and 011 contours begin with a common feature, and 010 and 110 contours end with one. In both cases the two contours compared do the same thing in equivalent parts of their length.

If we now compare 011 and 110 contours we find that they share a feature - the fall from high to low. If we compare the two contours as a whole, however, they make sharply differing impressions. An 011 contour has a fall then a rise, a 110 contour has a rise then a fall; they are mirror images. The common feature occurs at the beginning in an 011 contour and at the end in a 110 contour. Because the common feature does not occur in an equivalent place in each contour, it combines with the rest of the contour to produce a wholly different overall impression.

15.2.2 Subclassification

The classification as we have it is a crude one. The pitch contours one actually finds, though they can certainly be coded by our system, vary quite widely in the ways they realise the three features by which the coding system operates. We therefore need a way of subdividing the codings so that these variants can be included in our classification scheme and types and degrees of resemblance between contours more accurately specified. What follows is an **enumerative** classification scheme. The term is borrowed from the theory of bibliographic classification: an enumerative classification scheme 'aim[s] to enumerate or list all subjects present in the literature which the scheme is intended to classify' (Rowley 1987:188). This scheme lists all the types of pitch pattern to be found in our data.

According to Rowley:

> 'The enumeration is normally achieved by starting by identifying the main disciplines to be covered by the scheme... These main disciplines are each allocated a main class status, and enumeration proceeds by dividing each

> discipline into subclasses. This process of subdivision into classes is continued until an appropriate level of specificity has been achieved' (p.188)

Main classes in our scheme are indicated by upper-case letters; a first level of subdivision is indicated by a number and a second level by a lower-case letter. (It has not been necessary to subdivide all classes at every level.) By this means, together with the binary codes, **synthesis** is achieved: similar patterns are drawn together in the scheme by similar classifications. Two further general points must be made. First, a number of **systematic mnemonics** are used; systematic mnemonics are 'the use of the same notation for a given topic wherever that topic occurs' (Rowley 1987:204). For example at the second level of subdivision 'c' always indicates a pattern which contains one or more pitch resets; for this reason, for example, A4a is immediately followed in the enumeration by A4c because the latter contains pitch resets - there is no A4b. Second, the notation is designed to be **hospitable**. The scheme lists all the pitch patterns which can be found in our data; but any future extension of the corpus of recitations could result in new patterns being discovered. If this happens we will need to classify them using the notation of the scheme, and showing any relation they may have to existing patterns. The scheme is designed to allow a unique notation to be found readily for newly-discovered pitch patterns without the need to redesign the scheme or alter the notation for existing patterns.

The main classes of the scheme are the binary codings given above. Each coding is given a letter as follows:

Coding	Classification letter
010	A
011	B
001	C
110	D
111	E
000	F

The 000 coding, incidentally, indicates a contour which is level throughout.

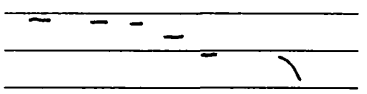
I now demonstrate the working of the subdivisions by listing and illustrating, class by class, the tunes to be found in my data. (After each tune illustrated the reader who produced it is indicated by a capital R and the reader's number.)

15.2.2.1 A tunes

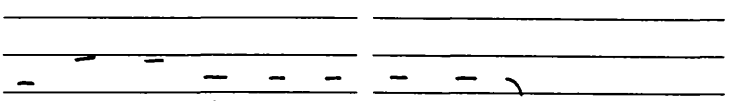
Of our three major classificatory features A tunes have only the fall. The subdivisions indicate the various ways in which this fall is manifested.

A1 A gradual fall over a number of syllables.

> **A1a** The fall simply progresses steadily downwards, though there is not necessarily a downstep on every syllable:

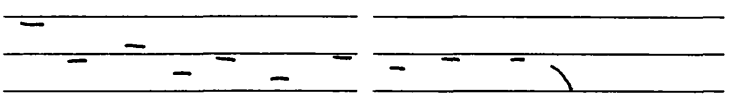


Read me a lesson, Muse R1



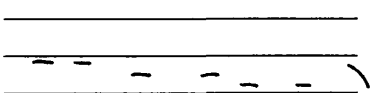
To match the child that was once yourself R14

A1b There is a *regular* alternation between up- and downsteps, while maintaining the downward slope of the contour:

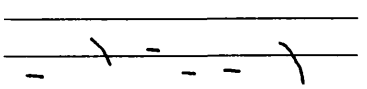


just so much I wist Mankind do know of Hell R2

A1c The downward progression of pitch is checked by one or more resets:



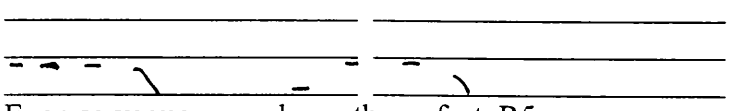
Mist is spread before the earth R6



And there is sullen mist R1

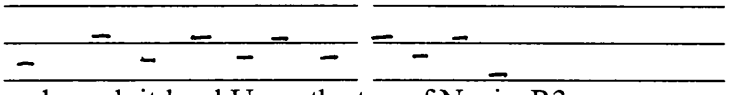
A2 Pitch remains relatively high until near the end of the contour; there is then a sudden rapid fall.

A2a There is high level pitch before the fall:



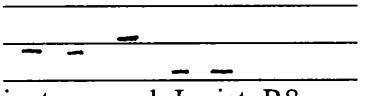
Even so vague beneath my feet R5

A2b Before the fall, while the trend line of pitch remains level, there is regular alternation of pitch about the trend line: a rocking pattern:



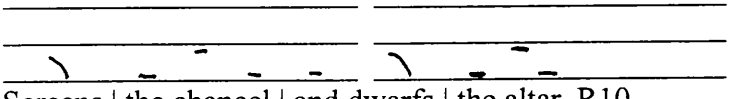
and speak it loud Upon the top of Nevis R3

A2c High level pitch continues until immediately before the fall; there is then a slight jump up to the starting point of the fall:



just so much I wist R8

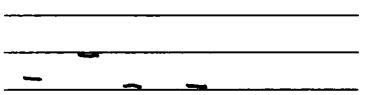
A3 This tune consists of a rapid fall only; in traditional terms it would be a tone group consisting only of a falling nucleus, or low prehead + fall. As such it is a contextual variant of the A tune: it is the manifestation of the pattern which maps onto segments of text which are too short to accommodate any other A subtype. The example shows a series of four A3 tunes:



Screens | the chancel | and dwarfs | the altar R10

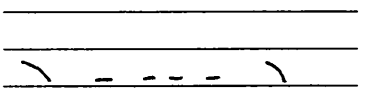
A4 Pitch falls rapidly and abruptly early in the contour then remains low for the remainder of it, except for a possible reset and further fall at the end.

A4a Pitch remains low and level after the fall:



and mental might R2

A4c At the end of the contour there is a reset in pitch and a further fall:



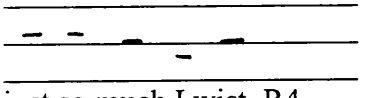
Towering into the flies R12

15.2.2.2 B tunes

B tunes code 011 - they have a final rise as well as a fall of some kind - but the final rises differ little except as between a glide and a step up; the subdivisions for B tunes are therefore made according to the nature of the fall, and the same subdivisions are used as for the A tunes, although not all the subdivisions used for A tunes have been needed for B tunes, because not every A tune has a B tune equivalent in our data.

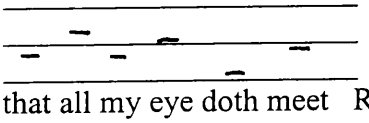
B1 Gradual fall + final rise.

B1a Steady gradual fall:



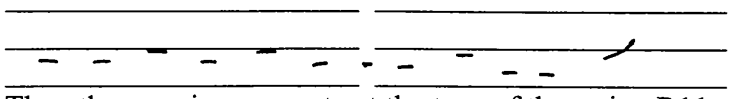
just so much I wist R4

B1b Rocking fall:



that all my eye doth meet R2

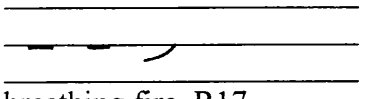
B1c Gradual fall with reset(s):



Than the massive magnate at the turn of the stairs R11

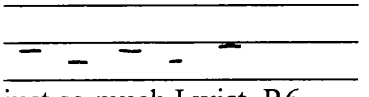
B2 Late abrupt fall + final rise.

B2a Steady high pitch before the fall:



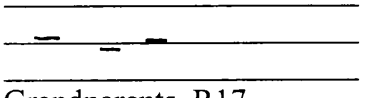
breathing fire R17

B2b Rocking pattern with level trend line, fall, final rise:



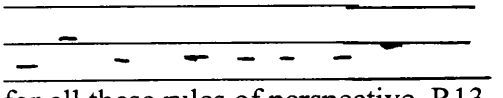
just so much I wist R6

B3 (Low prehead +) Abrupt fall + final rise:



Grandparents R17

B4 Early abrupt fall, low level pitch, final rise:

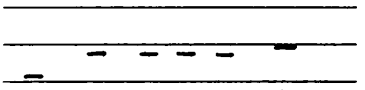


for all these rules of perspective R13

15.2.2.3 C tunes

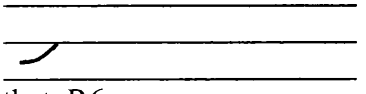
C tunes code 001: they have a final rise but this is not preceded by a fall. the final rises of C tunes, like those of B tunes, differ little; C tunes are therefore classified according to what precedes the final rise.

C1 Steady progression of low level pitch, then final rise:



And there is sullen mist R9

C2 Final rise only:



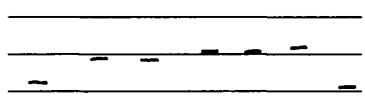
that R6

The C2 tune is a contextual variant of the end-rising contour for use in short segments: it is the equivalent for end-rising contours of the A3, which performs a similar role for end-falling contours (see 15.2.2.1).

15.2.2.4 D tunes

D tunes code 110 - they consist in essence of an initial rise followed by a fall. In the classification of D tunes the numerical subdivisions stand for the same qualities as they do in the notation of A and B tunes, but in D tunes they refer to the manifestation of the initial rise, rather than to the fall.

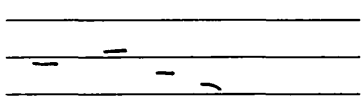
D1 Gradual initial rise:



Mankind can tell of Heaven R3

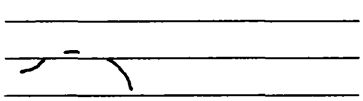
D2 Abrupt initial rise.

D2a abrupt rise + gradual fall:



Thus much I know R5

D2b abrupt rise + abrupt fall:

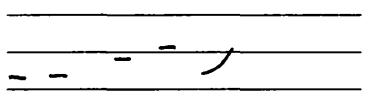


far up stage R19

15.2.2.5 E tunes

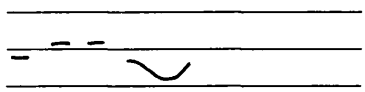
These code 111: initial rise + fall + final rise. As with D tunes the numerical subdivisions denote the form of the initial rise. The rarity of E tunes in our data means that the E2 tune, unlike the D2, did not require further subdivision, since it was manifested in only one form.

E1 Gradual initial rise:



a poor witless elf R1

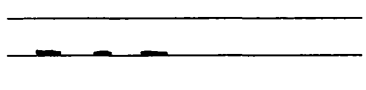
E2 Abrupt initial rise:



Even so vague R2

15.2.2.6 F tunes

F tunes code 000 - they are level throughout:



blind in mist R9

15.3 Variant manifestations of tune types

The categories of tunes are prototype categories: their prototypical instantiations are ones which conform very closely to the basic description of the pattern for that tune. But they also have less typical instantiations which will still conform to the basic description, but may do so in less obvious ways, or in ways which give them some characteristics more typical of other categories, in such a way that they border on those other categories. The different tune types vary in the extent to which they have

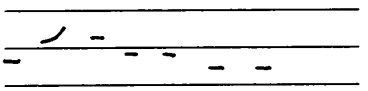
instantiations that are a long way from the prototype. In some cases all instantiations of a tune cluster closely around the prototype; the untypical members of the category are not so untypical as all that. Other tunes have a larger number of marginal instantiations which are not only close to the fringes of their categories but a long way from their prototypes. Here I examine those tunes with notable variants.

15.3.1 A and B tunes

Similar variants and degrees of variability as exist for A tunes can be found for their B equivalents. The following discussion of A tunes can therefore be taken to apply also to the equivalent B tunes.

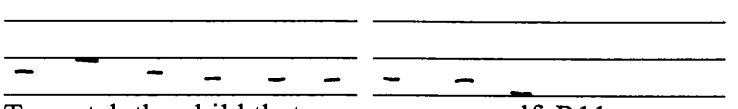
A1a

The prototype of the gradual downward progression is a series of small downsteps, together adding up to a downward trend.



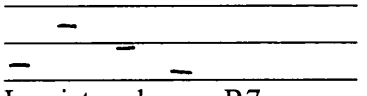
I look into the chasms R1

There is a downstep every two syllables after the onset on *look*. Another type has more than one downstep, so that the general trend of pitch is downward, but also has a stretch of level pitch in the middle:



To match the child that was once yourself R11

A third type consists of a series of downsteps, but extends only over a short segment of text; the downsteps must therefore be steeper than they would be in a longer tune to achieve a given depth of fall; 'gradualness' still exists in the sense that the fall is accomplished over a series of measured steps, but the fall overall is less gradual than is the case in other examples of the same tune:

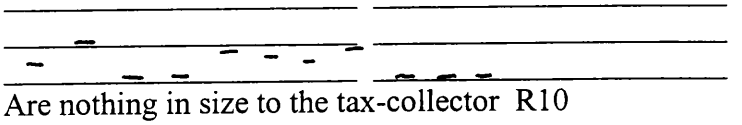


Is mist and crag R7

Yet all these examples are alike in having a downward progression of pitch throughout the contour.

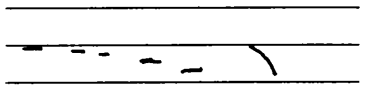
A1c

The A1c tune has, *mutatis mutandis*, the same varieties as the A1a, but some of the peculiarities of this tune need to be mentioned. In its most typical form it consists of a gradual series of downsteps, with, however, not a steady downward progress of pitch but one which is arrested by one or more resets between peak and trough. For example:



Are nothing in size to the tax-collector R10

There is, though, a notable variant - almost a sub-type of tune or alternative prototype - which has only *one* reset, and that at the end of the tune. The tune consists, then, of a steady downward progression of pitch like that of an A1a tune; this reaches a trough; there is then a jump up to the initiation point of a steep end-fall:

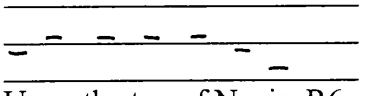


Not only on this height R3

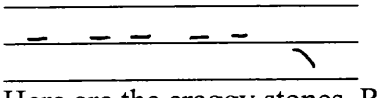
This is a variety of A1c tune particularly associated with the Keats readings, where most A1c tunes are like this. The MacNeice readings have many more A1c tunes but fewer of this type.

A2a

This is a tune type with a much narrower range of variation than the ones we have examined so far. Its essence consists in the sustained high level pitch followed by a late fall. The first variation within this essence is presence versus absence of a low prehead; it is not clear that either manifestation is more prototypical than the other:

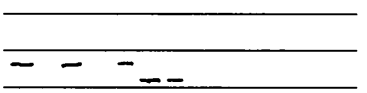


Upon the top of Nevis R6



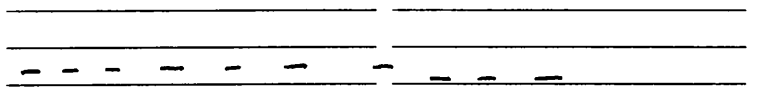
Here are the craggy stones R9

There are two other variants. The first consists only of a *high* prehead (see 15.2) and end-fall. In this the sustained high level pitch is not sustained for very long, simply because preheads are inherently short:



on one's uvula R13

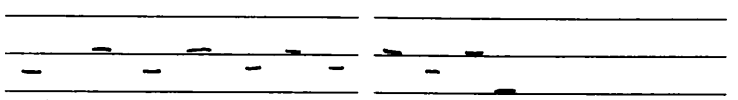
The second variation from the basic pattern (also as it happens possessed by this example) is the possession of a low level tail, so that the 'end-fall' does not literally occur at the end of the tune. The defining characteristic of A2 tunes is what is described in 15.2.2.1 as a 'sudden rapid fall' which takes place 'near the end of the contour'. The clearest examples of A2 tunes, and hence the most prototypical, are those where this fall takes place *at* the end of the contour, as the last thing the contour contains. But a contour which has a few syllables of low level pitch after the fall can still be regarded as having an abrupt late fall:



But in the world of thought and mental might R9

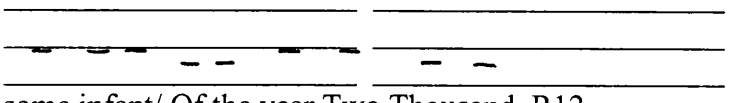
A2b

Variation in this tune is of two types: variation of the manifestation of the rocking pattern which is the essence of the tune's pattern, and variation of the end of the tune. The rocking pattern may consist of alternation in single-syllable steps (step-up, step-down, step-up, step-down etc.):



and speak it loud/ Upon the top of Nevis R3

Or there may be a clear alternation between higher and lower pitch, but the movement between the two does not happen on every syllable:

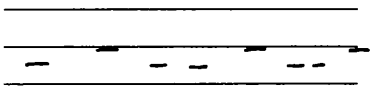


some infant/ Of the year Two Thousand R12

This tune has two peaks and two troughs, all of near-equal length in terms of the number of syllables they cover; and pitch alternates between peaks and troughs. These characteristics give the sense of a rocking pitch pattern, even though it does not have the switchback pattern of the example from Reader 3. No examples of the type exemplified by Reader 12 are to be found in the Keats data, although examples of the 'switchback' type are to be found in the MacNeice data. As far as the Keats data is concerned, when an A2b tune is used the reader may be using pitch as an exponent of the metre, using alternating high and low pitch to mark out the alternation of ictus and remiss in the accentual-syllabic metre.

As it happens these two examples also show the two variations of the end of A2b tunes. One type - displayed by Reader 3 - has a definite end-fall: the drop in pitch at the end of the tune (on *Nevis*) is deeper than the drops from peak to trough which have occurred in the middle of it. The other type - displayed by Reader 12 - simply ends the tune with one more downstep among many; in this case the one from *Two* to *Thousand*. With this type the only thing that separates A2b from B2b tunes is

the fact that the tune ends with a downward rather than an upward movement; an A2b ends relatively low, a B2b relatively high and with a consequent incomplete feel. Compare Reader 12's A2b tune in the previous example with the B2b tune with which he precedes it:

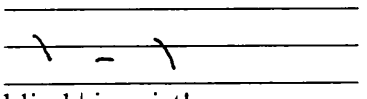


And down at the end of a queue

The alternation conforms to the same pattern; the tune simply ends on an upstep rather than a downstep. The difference between an A2b and a B2b tune is greater, though similar in kind, when the tunes take their prototypical form of ending with what can be definitely identified as an *end*-fall or -rise.

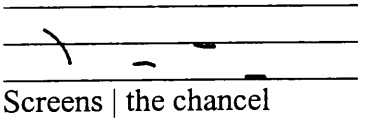
A3

The only variation with this tune is whether it consists of nothing else but a sharp fall in pitch, or whether this is preceded by a prehead. In the following sequence Reader 1 shows both types:



blind | in mist!

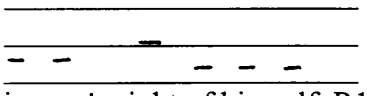
as does Reader 15 in



Screens | the chancel

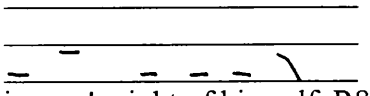
A4a and A4c.

These two tunes are among the most variable. Tunes can indeed present problems as to whether they belong to one of these types or to some other. The prototype consists of a steep drop in pitch immediately after the onset, followed by low level pitch; just as the prototypical A2 is one in which a fall 'near the end' is a fall *at* the end, so the prototypical A4 is one in which the early fall takes place at the beginning. An A4a then remains low to the end:



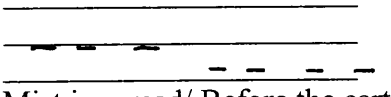
is man's sight of himself R1

An A4c has a final jump up and end-fall:



is man's sight of himself R8

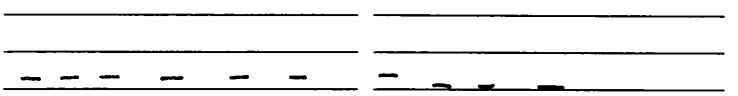
Variation from these prototypes takes place along different dimensions for A4a and A4c tunes. In more marginal examples of A4a tunes the fall, though still taking place early in the tune, does not take place immediately after the onset:



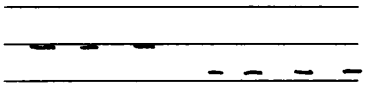
Mist is spread/ Before the earth R9

The first syllable here, *Mist*, is the onset, but the fall does not take place until after the third syllable. The question is: at what point would a fall cease to be 'early'? At this

point, presumably, we could no longer classify a tune as A4; A2 would be more accurate (i.e. the fall becomes 'late' rather than 'early'). The existence of peripheral examples of the categories denoted by these two numerical subdivisions means that these categories shade off into each other rather than being sharply differentiated. If the fall of an A2 is further back and the fall of an A4 further forward, the distinction between them is not a sharp one:



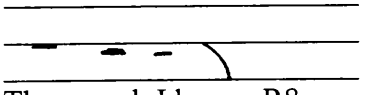
But in the world of thought and mental might A2a R9



Mist is spread Before the earth A4a R9

The distinction is still perceptible: the fall in the A2a example takes place close to the end, and that in the A4a example before half way through the contour (counting by syllables); but the distinction is obviously less clear cut than in more prototypical examples. In fact an A4a and an A2a tune can form a good prosodic parallelism if the A4a is a peripheral one of this kind: see 17.2.3.

The variation in A4c tunes is variation of the vertical extent of the early fall. In the prototype it is a deep one (see the example in 15.2.2.1). However if the fall is shallow the tune still looks sufficiently like the prototype to be classified A4c:

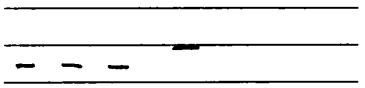


Thus much I know R8

The initial fall occurs immediately after the onset on *Thus* and the tune has a reset and final fall on *know*; the shallowness of the fall, however, means that the early fall is not a marked feature of the tune. Consequently it has a fairly close resemblance to most A2 tunes (which remain high until the end fall), though the fact that it has an initial fall, however shallow, holds it back from actually being an A2 tune.

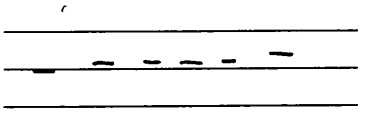
15.3.2 C tunes

The C1 tune varies very little. The essence of this tune is sustained low level pitch and an end-rise; the prototypical C1 has only this:



Before the earth R5

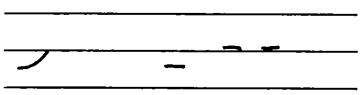
The one slight variation from the prototype occurs when the tune has a prehead lower in pitch than the sustained low level stretch:



And there is sullen mist R8

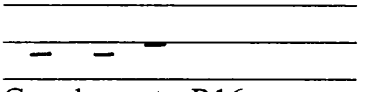
(*there* is accented in this example.) All C1 tunes are either of the prototype or close to it: those with the low prehead have the features of the prototype; they simply have a tiny addition as well.

C2 tunes may consist only of a rise, or of a prehead plus rise:



that R6 some infant R11

The latter type moves close to the boundary with C1 tunes. Take the following example of a C1:

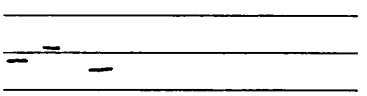


Grandparents R16

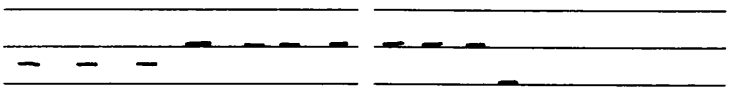
This sustains low level pitch on two syllables then rises: though short it has the essence of a C1. But if the rise in pitch had occurred on *-pa-* and not *-rents* then in terms of pitch movements it would have been identical to the *some infant* example above; not having the sustained low level pitch it would have been classifiable as a C2. Conversely if the rise in *some infant* had been a jump up not to *in-* but to *-fant*; if, that is, pitch had been held low on the first two syllables; then this tune would have been better classified as a C1. An untypically short C1, and a C2 with a proclitic to the rise which is its essence differ very little. The categories of C1 and C2 shade off into each other.

15.3.3 D tunes

The main problem here is with D2b tunes. They begin with an abrupt jump-up or rise, and end with an abrupt fall; but examples vary in the amount of sustained high pitch they have between the initial rise and the end-fall:

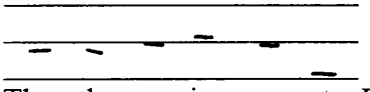


even such R2



and speak it loud/ Upon the top of Nevis R4

The first example has nothing between the rise and the fall; the second maintains high level pitch over six syllables. D2a tunes have a gradual fall but, as with A1a tunes this can be more or less gradual:

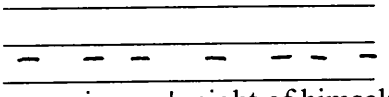


Than the massive magnate R19

In this example the progress from peak to trough takes only three syllables. A D2a of this type is relatively close to a D2b. They share an abrupt jump-up by definition, but this untypical D2a also has a *relatively* sharp end fall: there is not a neat divide between gradualness and abruptness.

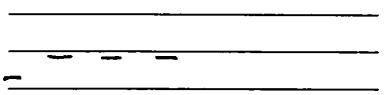
15.3.4 F tunes

Apart from the prototypical F tune, consisting only of sustained level pitch, for example:



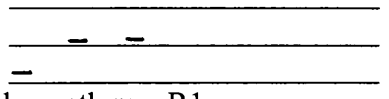
vague is man's sight of himself R9

there is the variant of a tune which has a low prehead before the sustained level pitch, for example:



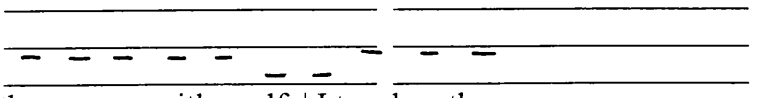
I tread on them R5

This variant has in common with a C2 tune the fact that both have a single rise as their only pitch movement. Indeed some tunes are classified as C2 which closely resemble this one, for example:



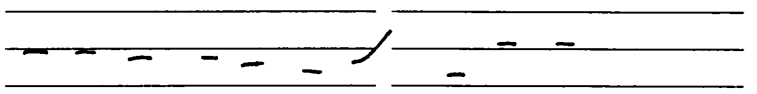
beneath me R1

Both have a jump up from a low prehead, followed by level pitch sustained over more than one syllable. How do we decide which classification to give a pattern with these two features? In accordance with the principle set out in 15.2, the deciding factor is whether the low prehead is pitch prominent or not. If the prehead is not pitch prominent the tune is classified as an F tune; the level pitch from the onset onward is the essence of the pattern. If the prehead is pitch prominent the tune is classified as C2; the initial jump-up from the prehead contributes significantly to the essence of the pattern. Whether the prehead is pitch prominent depends on context. Reader 5 in the example above precedes the low prehead with an A2a tune:



that, a poor witless elf, | I tread on them

There is a down-step in pitch to *elf*, and pitch is still low on the following prehead *I*; hence *I* is not obtruded and so not pitch prominent. The pitch pattern of *I tread on them* is therefore classified as an F tune. Reader 1, however, precedes the low prehead with a B1a tune:



Mist is spread/ Before the earth, | beneath me

The low prehead on *Be-* follows a rise on *earth*: there is a jump down to *Be-*. A jump down following a rise is one of the alterations in the trend of pitch given by Knowles (1991) as a definition of pitch reset. We can say, then, that the low prehead on *Be-* is obtruded and so is pitch prominent in context. The jump-up from the low prehead, then, contributes to the essence of the tune (it is assisted in doing so by the fact that the jump-up from the prehead echoes the rise on *earth*; the two pitch patterns parallel each other). The tune is therefore classified as C2. Nonetheless, marginal members of different categories can be closer to each other than either is to the central members of its own category. This theme is developed further in chapter 17.

15.4 Overview of the functioning of pitch patterns in the recitations

We can now turn to the operation of the pitch-pattern system in our data. I here begin with general aspects of the style and function of the pitch patterns in the recitations before turning, in the next four chapters, to fine details.

15.4.1 The pitch pattern as binder and separator

Pitch patterns map onto segments of text. They are clearly one auditory exponent of what Cureton (1992) calls *rhythmic phrasing* or *grouping*: 'In essence grouping "chunks" a rhythmic medium into parts' (p. 136). The structure of grouping is articulated against the more regular structure of metre and lineation; the tension between them is one source of rhythmic effects in verse. 'Chunking' is of course one function of pitch and rhythmic patterns in all speech. Cureton, as we saw in chapter 4, confuses textual (syntactic and semantic) and prosodic phrasal articulation somewhat; nonetheless, in a corpus of performances of verse we can assume that the former cues the latter. Moreover, it is the prosodic aspect of phrasing which most clearly cross-cuts metre and lineation. Insofar as metre is a series of recurrences (a 'rhythmic parallelism' in the description of Leech (1969:111)), and pitch patterns form a series of recurrences of another kind, then these two systems compete for the attention of the listener. The degree to which pitch patterns succeed in wresting our attention from the metre varies; it can be scarcely at all, there can be equivocation or it can be near-total. Pitch patterns, each of which has a trajectory from beginning to end and a familiar configuration, articulate the domains of syntax and semantics, and these vary in the extent to which they harmonise with the groupings of metre and verse form (line, stanza etc.) As Mukařovský (1933) observed, the intonation patterns of recitation can create a tension with the verse form (see 13.2).

One aspect of this we can note at the start. When two or more segments of text are articulated by identical or similar pitch patterns, one per segment, two things happen, which are opposed in effect. The fact that the segments have separate

contours marks them as separate segments - the familiar trajectory of pitch carries us from beginning to end in each case. But the similarity or identity of the pitch patterns chosen binds the segments of text together, because a pitch pattern is repeated or near-repeated. This latter function may draw attention to some kind of textual parallelism between the segments of text; it may indicate some kind of grammatical relationship - for example co-ordination, subordination or subject-predicate; or a relationship of discourse structure or topic. This is explored in detail in the next four chapters. More generally, the system of pitch pattern recurrences as a whole indicates the unity of a whole text or one performance of it.

15.4.2 The corpus of pitch patterns as a closed set

Each reader selects pitch patterns to use in their recitation from the potentially infinite number of possible combinations of pitch movements. Once the selection is made, however, the body of pitch patterns selected becomes a closed set: although other patterns could have been selected, although if we had more or different readers or poems we might have more or different pitch patterns (and our classification system is designed to admit new ones in the future - see 15.2.2), the restricted set of patterns we have got is alone the foundation of the system of recurrences of and resemblances between pitch patterns that we can establish for this body of data. Insofar as pitch patterns, like other linguistic phenomena, constitute a system of mutually defining entities, for *this* data the patterns that actually occur in it are a system of mutually defining entities on their own.

15.4.3 The overall distribution of tune types in the recitations

Tables 10 and 11 show the boundaries of the tunes used by each reader; these tables are designed, and should be read, in a similar fashion to tables 1 and 3 (see chapter 10) that is, the columns are read downwards, and each tune spans the sequence of text from immediately after one oblique stroke to the end of the text printed opposite the next. Tables 12 and 13 show the numbers of each type of tune which occur in the corpus, both aggregates for main classes and figures for individual subclasses. Figures for individual readers are also shown throughout.

What is immediately obvious is the domination of the corpus by A tunes, in both poems: 72% of tunes in the Keats data are A tunes, and 82% in the MacNeice data. 86.9% of tunes in the Keats data are A or B, and 90.9% in the MacNeice. At the other extreme the E and F tunes seem only to be used as an occasional variation by a few individuals: six out of nine of the Keats readers and nine out of ten of the MacNeice readers have no E tunes; while six out of nine Keats readers and five out of ten MacNeice readers have no F tunes. No reader has more than one E tune or F tune except for Reader 9 who has three F tunes. Of all these most lightly-used of tune types the least lightly used is the F tune in the MacNeice data, used once by half the readers; but this use is confined to a single word of the poem, *Grandparents*.

Table 10 - Keats: the domains of tunes.

Reader:	1	2	3	4	5	6	7	8	9
Read me a lesson, Muse,	/	/	/	/	/	/	/	/	/
and speak it loud/	/	/			/	/		/	
Upon the top of nevis,	/	/	/	/	/	/	/	/	/
blind	/					/			
in mist!/	/	/	/	/	/	/	/	/	/
I look into the chasms	/	/	/	/	/	/	/	/	/
and a shroud/						/			
Vaporous		/	/	/		/	/	/	/
doth hide them;	/	/	/	/	/	/	/	/	/
just so much I wist/			/	/	/	/		/	
Mankind do know of Hell.	/	/	/	/	/	/	/	/	/
I look o'erhead,/	/	/	/	/	/	/	/	/	/
And there is sullen mist;	/	/	/	/	/	/	/	/	/
even so much/		/	/		/	/		/	
Mankind can tell of Heaven.	/	/	/	/	/	/	/	/	/
Mist is spread/		/			/				
Before the earth,	/		/	/	/	/	/	/	/
beneath me -	/	/	/	/	/	/	/	/	/
even such,/	/	/	/	/	/	/	/	/	/
Even so									/
vague	/	/	/	/	/	/	/	/	
is man's sight						/			
of himself./	/	/	/	/	/	/	/	/	/
Here are the craggy stones	/				/			/	/
beneath my feet -/	/	/	/	/	/	/	/	/	/
Thus much I know,	/		/	/	/	/	/	/	
that,	/	/				/			/
a poor witless elf,/	/	/	/	/	/	/	/	/	/
I tread on them,	/	/	/	/	/	/	/	/	/
that all my eye doth meet/	/		/	/	/	/	/	/	
Is mist and crag,	/	/	/	/	/	/	/	/	/
not only on this height,/	/	/	/	/	/	/	/	/	/
But in the world of thought	/	/	/	/		/	/	/	
and mental might.	/	/	/	/	/	/	/	/	/

Table 11 - MacNeice: the domains of tunes.

Reader:	10	11	12	13	14	15	16	17	18	19
The further-off people	/				/					
are			/				/			
the smaller.	/	/	/	/	/	/	/	/	/	/
Grandparents,/	/	/	/	/	/	/	/	/	/	/
Homeric heroes	/	/	/	/	/	/	/	/	/	/
and suffering Bantu/	/	/	/	/	/	/	/	/	/	/
Are nothing				/						
in size			/		/	/	/	/	/	
to the tax-collector/	/	/	/	/	/	/	/	/	/	/
Or the dentist	/		/	/	/	/		/	/	
breathing fire	/		/	/	/	/	/	/	/	
on one's uvula.//	/	/	/	/	/	/	/	/	/	/
So the stunted commissionaire	/				/	/	/	/	/	/
bulks larger/	/	/	/	/	/	/	/	/		/
Than the massive magnate	/			/	/	/	/	/	/	/
at the turn of the stairs/	/	/	/	/	/	/	/	/	/	/
While the coffin		/	/	/		/	/	/	/	
entering						/				
by the west door/	/	/	/	/	/	/	/	/	/	/
Screens	/					/				
the chancel	/	/	/	/	/	/	/	/		
and dwarfs	/									
the altar.//	/	/	/	/	/	/	/	/	/	/
Yet								/		
sometimes	/	/	/	/	/	/	/	/	/	/
for all these rules										/
of perspective/	/	/	/	/	/	/	/	/	/	/
The weak eye zooms,	/	/	/	/	/	/	/	/	/	/
the distant midget/	/	/		/	/		/		/	
Expands				/	/					
to meet it,	/	/	/	/	/	/	/	/	/	/
far up stage/	/	/		/			/	/	/	/
The kings						/				
go			/							
towering					/	/				
into the flies;//	/	/	/	/	/	/	/	/	/	/
And down at the end of a queue	/	/	/	/	/	/	/	/	/	/
some infant/		/		/		/		/	/	
Of the year Two Thousand	/	/	/	/	/	/	/	/	/	/
straddles the world/	/	/	/	/	/	/	/	/	/	/
To match the child	/		/	/		/	/	/	/	/
that was once yourself./	/	/	/	/	/	/	/	/	/	/
The further-off people	/		/	/	/	/		/	/	/
are							/			
sometimes			/	/	/	/	/		/	
the larger.	/	/	/	/	/	/	/	/	/	/

Table 12 - Keats: distribution of tune types

Distribution of main classes

Tune type	Reader: Total	1	2	3	4	5	6	7	8	9
A	170	18	18	21	20	18	22	20	21	12
B	35	5	4	3	4	4	7	2	3	3
C	13	1			3	1		3	5	
D	9	1	1	2	1	2		1	1	
E	3	1	1					1		
F	6	1	1			1				3
Total:	***236***	***27***	***25***	***26***	***25***	***28***	***30***	***24***	***28***	***23***

A tunes

Tune type	Reader: Total	1	2	3	4	5	6	7	8	9
A1a	32	3	4	5	7	3	1	3	2	4
A1b	1		1							
A1c	40	7	2	6	2	2	8	8	4	1
Total A1	***73***	***10***	***7***	***11***	***9***	***5***	***9***	***11***	***6***	***5***
A2a	58	4	8	5	10	7	7	4	8	5
A2b	11		1	2		4	1	2	1	
A2c	2	1							1	
Total A2	***71***	***5***	***9***	***7***	***10***	***11***	***8***	***6***	***10***	***5***
A3	15	2		2	1	2	4	2	1	1
A4a	7	1	2	1				1	1	1
A4c	4						1		3	
Total A4	***11***	***1***	***2***	***1***			***1***	***1***	***4***	***1***

B tunes

Tune type	Reader: Total	1	2	3	4	5	6	7	8	9
B1a	7	1			2	1		1	1	1
B1b	1		1							
B1c	2	1		1						
Total B1	***10***	***2***	***1***	***1***	***2***	***1***		***1***	***1***	***1***
B2a	13	3	2	2	1		3	1		1
B2b	4		1			1	2			
Total B2	***17***	***3***	***3***	***2***	***1***	***1***	***5***	***1***		***1***
B3	2				1				1	
B4	6					2	2		1	1

C tunes

Tune type	Reader: Total	1	2	3	4	5	6	7	8	9
C1	11					3			3	5
C2	2	1					1			

D tunes

Tune type	Reader: Total	1	2	3	4	5	6	7	8	9
D1	5	1		2		1		1		
D2a	2					1			1	
D2b	2		1		1					
Total D2	*4*		*1*		*1*	*1*			*1*	

E tunes

Tune type	Reader: Total	1	2	3	4	5	6	7	8	9
E1	2	1						1		
E2	1		1							

Table 13 - MacNeice: distribution of tune types

Distribution of main classes

Tune type	Reader: Total	10	11	12	13	14	15	16	17	18	19
A	250	30	18	19	30	30	21	29	22	29	22
B	28	1	4	6	1	1	5	1	8		1
C	14		2	3	1	1	4	2	1		
D	8				1		3		1	1	2
E	1			1							
F	5	1	1	1						1	1
Total	*306*	*32*	*25*	*28*	*33*	*32*	*33*	*32*	*32*	*31*	*26*

A tunes

Tune type	Reader: Total	10	11	12	13	14	15	16	17	18	19
A1a	30	4	7	1	1	4	2	6	1	3	1
A1b	1	1									
A1c	63	7	4	2	6	4	4	7	4	13	12
Total A1	***94***	***12***	***11***	***3***	***7***	***8***	***6***	***13***	***5***	***16***	***13***
A2a	61	6	4	8	11	2	6	6	11	2	5
A2b	18	1		2		7		3	2	2	1
A2c	13	1	1		2	4	1	2		2	
Total A2	***92***	***8***	***5***	***10***	***13***	***13***	***7***	***11***	***13***	***6***	***6***
A3	54	9	2	4	9	6	6	5	4	6	3
A4a	4			1		2	1				
A4c	6	1		1	1	1	1			1	
Total A4	***10***	***1***		***2***	***1***	***3***	***2***			***1***	

B tunes

Tune type	Reader: Total	10	11	12	13	14	15	16	17	18	19
B1a	7	1	1	2			2	1			
B1c	5		2				1		1		1
Total B1	***12***	***1***	***3***	***2***			***3***	***1***	***1***		***1***
B2a	5			1			1		3		
B2b	1			1							
Total B2	***6***			***2***			***1***		***3***		
B3	4			1			1		2		
B4	6		1	1	1	1			2		

C tunes

Tune type	Reader: Total	10	11	12	13	14	15	16	17	18	19
C1	12		1	3	1	1	4	1	1		
C2	2		1					1			

D tunes

Tune type	Reader: Total	10	11	12	13	14	15	16	17	18	19
D1	2						2				

D2a	2	1				1
D2b	4		1	1	1	1
Total D2	***6***	***1***	***1***	***1***	***1***	***2***

15.4.4 The overall prosodic style of the recitations

The predominance of A tunes in both sets of data would seem to be a characteristic of the style of poetic recitation, and of reading aloud in general. Cauldwell and Schourup (1988), drawing on the theory of discourse intonation (e.g. Brazil 1975, Brazil, Coulthard and Johns 1980) distinguish between two types of *orientation* towards the words being uttered, *direct* and *oblique*. Direct orientation, uses the system of referring (rising and fall-rise) and proclaiming (falling and rise-fall) tones to signal the communicative context of what is said; oblique orientation is characterised by a mixture of proclaiming and neutral (level) tones, and focuses simply on the language used, as if reporting another person's message. Cauldwell and Schourup, analysing a corpus of Yeats's recordings of his own work, found oblique orientation to be more prevalent than direct orientation. Brazil (1992) suggests that recitations vary in the degree of engagement readers display with the text, as signalled by their tone choices, oblique orientation being used if the reader wishes simply to report what the text contains, and direct orientation if the reader is trying to convey the context which the text implies for itself, for example conveying the experiences recounted by a poetic persona as if they were a straightforward anecdote rather than a literary representation of one. Brazil suggests (1992:213) that a more oblique orientation is the default style for verse recitation; individual readers can choose to engage more with the text and use an intonation which suggests a more direct orientation. Cauldwell (1994), in his analysis of multiple recordings of Philip Larkin reading his poem *Mr Bleaney* and

reports with mild surprise that Larkin has a relatively direct orientation; he 'reads it in a way which highlights its narrative properties as an anecdote' (from the abstract of the thesis).

This too suggests that oblique orientation might be regarded as the norm for verse recitation, while Bolinger (1989:68-9) observes that

> 'There is a sort of "reading stereotype" - a tendency for readers to apply, mechanically, the pattern that assigns a major A profile [fall in pitch - see 14.1.2] to the last content word.'

The prevalence in our data of tunes with a final fall suggests that this characteristic reading intonation is being followed by our readers. 'Stereotype' is too strong: throughout readers choose between varieties of falling contours. But this coexists with an overall similarity which marks the style as reading-aloud style.

The narrowness of the range of main classes of tunes when their distribution through the corpus is weighted for frequency is still what strikes one most when contemplating these figures. This narrowness is something we might expect more in accentual-syllabic verse, such as the Keats, this being more prototypically literary than non-metrical or weakly metrical verse such as the MacNeice; we might expect that readers would want to read the Keats with a more oblique orientation, such as would suggest a formality suitable to an *echt*-literary text. In fact the set of tunes in the MacNeice data is very slightly narrower than that in the Keats: the MacNeice data lacks the B1b and E1 tunes. But these tunes are in any case only marginally important in the Keats data - there is just one B1b and two E1's - which suggests that the lack of these tunes in the MacNeice data is simply a chance variation between the two poems,

and that there is no significant melodic difference between metrical and non-metrical verse. If this is so then we may be justified in speaking, not merely of a closed set of tunes used in our data (a corpus of actual recitations) but of a closed set of tunes which constitutes the range of available melodic choices for poetic recitation in general, though further research must be done on this. If, however, a restricted set of pitch patterns, whatever that set is, is common in verse recitation then this may be one of the defining prosodic features of verse, one more important than metre. Many poets at least since Hopkins have found that they have not needed the prop of accentual-syllabic metre to produce what is recognisably verse; perhaps melodic narrowness is generally heard internally in silent readings.

Variation takes place within this restricted set of pitch patterns largely in the precise choice of A pattern: melodic freedom operates within narrow limits. Departure from the default style of oblique orientation - the use of tunes other than A tunes - is a device that can be used occasionally as a particular means of variation when the text seems to demand it. But tunes other than A tunes, particularly B tunes (the largest single group of non-A tunes), can contain aspects of the default pattern, and do so to the extent that their form overlaps with that of A tunes: if they contain a fall their resemblance to the A tunes around them gives them an aspect of the default pattern even if the fall they contain is not an end fall.

Within the framework of this general recitational style there are degrees of resemblance between pitch patterns. In the remaining chapters of this section I apply the pitch-pattern classification scheme to an analysis of these degrees of resemblance in the data. I examine in turn the exact repetition of patterns (echo); resemblance

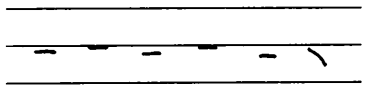
between contours that falls short of exact repetition (similarity) and the specific use of contrast between patterns to mark the initiation and completion of a construction in the text (completive sequence). I examine how these phenomena are used as prosodic articulations of textual structure.

Chapter 16

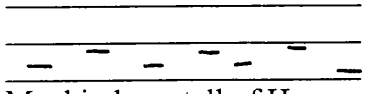
Pitch patterns in the recitations (1): Echo

In this chapter I examine the phenomenon of **echo**. Echo may be defined as the use of the same tune type on two or more segments of text, when there is some kind of syntactic or semantic parallelism between those segments or when they are in close proximity (adjacent or very nearly so), in the latter case particularly if there is also a syntactic relationship between them. The use of the same tune type twice, in other words, does not itself constitute echo; if it did, then any instantiation of a tune type would echo every other one anywhere in a recitation. Echo occurs in cases where we can reasonably infer that the use of the same tune type in two or more segments is done deliberately (even if subconsciously) to mark prosodically the parallelism or proximity. The repetition of the same tune type is by definition the strongest degree of resemblance which can exist between two pitch contours.

An example of an echo used to mark a textual parallelism is given by Reader 5, who recites both the following parallel segments of text with A2b tunes:



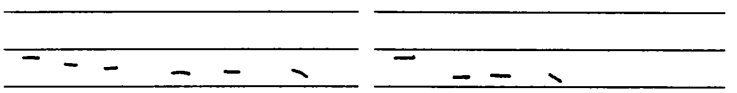
Mankind do know of Hell |



Mankind can tell of Heaven

These segments of text are discontinuous; but the semantic parallelism of *Mankind* + verb phrase denoting cognition + noun relating to afterlife is mirrored by the identity of the pitch patterns used.

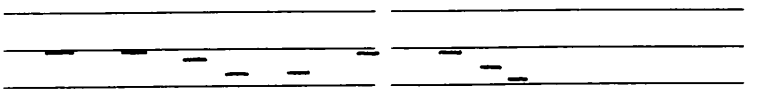
An echo between two segments of text in close proximity is the two A1a tunes used by Reader 4 in



But in the world of thought | and mental might R4

There is here syntactic cohesion between the segments marked by the echo: *thought* and *mental might* are both complements of the preposition *of*, and *and mental might* belongs to the larger prepositional phrase constituted by the entire sequence. This example illustrates the grammatical asymmetry which very often exists between adjacent textual segments which are echoed: the first tune encompasses the conjunction *But* which introduces the phrase, the preposition *in* and half the complex noun phrase which is its complement; the second tune encompasses only the second half of the complex noun phrase.

It is also quite possible for an echo to be cued by both textual parallelism and adjacency or proximity. For example Reader 13 uses two A2a tunes in



Screens the chancel | and dwarfs the altar.

The two segments of text are adjacent (and together constitute a single line); they are also co-ordinated sequences of present tense verb + noun phrase object. Moreover, both verbs are verbs derived from nouns, both noun phrases are simple ones consisting of definite article + head noun, and both head nouns denote parts of a church.

Two general points can be made about the occurrence of echo in the data, which will be illustrated throughout the discussion of it. First, echo appears, considered across the entire body of readers, to be attracted not to specific, well-defined segments of text which a reader wishes to highlight, but to a small general area of the poem. Frequently more than one reader will make an echo in the same general area but the precise boundaries of different readers' echoes will differ, as if all the readers concerned felt simply that there should be echo somewhere at this point. Sometimes the segments picked out for echo by a reader in such a case do not make complete sense simply as a pair, so that the echo cannot be interpreted as an echo between those segments as such. Pitch-pattern parallelism has, then, some independence from the text: it can within limits vary the way it maps onto the text.

Second, a frequent context for echo is the phenomenon of *early closure*. This occurs when a reader ends a contour at a point when the immediately following segment of text is part of the same construction. For example in line 4 of the MacNeice poem, *Or the dentist breathing fire on one's uvula*, if a reader ends a contour after *fire* there is still the adverbial *on one's uvula* to come. In circumstances such as these a reader may then add the remainder using an identical pitch pattern to the one just completed; this can be seen as a means of repairing the early closure by

showing the syntactic cohesion of the two parts of the construction even though they have been (inadvertently?) placed in separate contours.

16.1 Echoes in the Keats data

Echoes in the Keats data are shown in table 14. The table is read vertically, each column being devoted to one reader. Where a tune type appears opposite a segment of text this means that the reader in question recited the segment with that tune type, and that the tune echoed with one or more tunes of the same type. The tune(s) with which a tune echoed can usually be found at once by eye, since they are a) by definition of the same type and b) in most cases adjacent, or at least the next tune above or below in the table. In the few cases where this is not so, and a tune appears at first to be isolated, the echoing tune may be found by examining the entire column for another tune of the same type which appears similarly isolated.

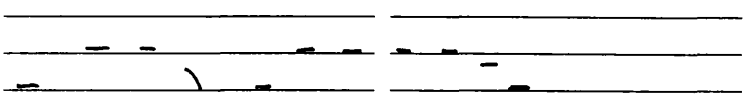
16.1.1 Clusters of echoing

There are points in the text where several readers make an echo, although the precise boundaries of the tunes rendering it vary. At these points we can infer that there is some agreement between the readers on the clarity of the link between the segments of text involved.

Table 14 - Keats: echoes

Reader:	1	2	3	4	5	6	7	8	9
Text									
Read me a lesson, Muse,					A2a				
and speak it loud/		A2a			A2a	A2a		A2a	
Upon the top of Nevis,		A2a				A2a		A2a	
blind	A3					A3			
in mist!/	A3					A3			
I look into the chasms,		A2a	A2a	A2a			A1c	A2a	A2a
and a shroud/Vaporous		A2a	A1a	A2a		A1c	A1c	A2a	A2a
doth hide them;		A2a		A2a				A2a	
and a shroud/Vaporous doth hide them;	A1c								
just so much I wist			A2a						
just so much I wist/Mankind do know of Hell.	A1c								
Mankind do know of Hell.					A2b				
And there is sullen mist;	A1c		A1a			A1c			
even so much/Mankind can tell of Heaven.	A1c								
Mankind can tell of Heaven.			D1		A2b				
Mist is spread/ Before the earth				A2a					
beneath me -									F
even such,/	A2a		A2a	A2a	A2a	A2a			
Even so vague	A2a		A2a	A2a	A2a	A2a	A1c		
is man's sight						A2a			
of himself						A2a			
is man's sight of himself./			D1				A1c		
vague is man's sight of himself./									F
Here are the craggy stones beneath my feet - /				A1a			A1c		
Thus much I know,				A1a			A1c	A4c	
that, a poor witless elf,/			A1a					A4c	
a poor witless elf,/									A1a
I tread on them,				A1a		A2a			A1a
that all my eye doth meet/			A1a						
Is mist and crag,			A1c			A2a			
that all my eye doth meet/ Is mist and crag									A1a
not only on this height,/		A1c	A1c			A1c		A1c	
But in the world of thought	A1c	A1c	A1c	A1a		A1c		A1c	
and mental might.	A1c			A1a		A1c		A1c	

There is a small cluster of echoes here: they are made by Readers 2, 6 and 8, in all cases using A2a tunes, as for example Reader 2:

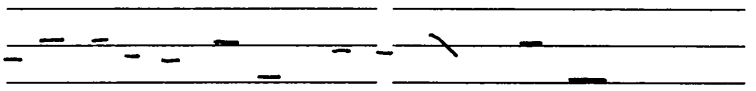


and speak it loud/ | Upon the top of Nevis

This is a case of early closure. The clause is divided by the line boundary; this division gives an extension structure (see 4.1), since *loud* could complete the clause. The first tune ends at the line boundary, but the relatively long adverbial *Upon the top of Nevis* follows; it therefore has to be given a separate pitch contour from the part of the clause that precedes it; the echo between the two tunes repairs the early closure. The length of the constituent that follows the line boundary acts as a cue for placing it in a separate prosodic domain. Moreover, since *Upon the top of Nevis* is in a separate line of the poem, the use of a separate tune preserves in performance the integrity of the line as a structural unit of verse. Yet these three readers also mark the cohesion, as well as the separateness of the two parts of the clause by making an echo, binding them by the recurring pitch pattern. For all that there is a small cluster of echoes here, however, it is a minority taste. (Four readers, Readers 3, 4, 7 and 9, recite *and speak it loud/ Upon the top of Nevis* with a single tune, emphasising the cohesion of the two halves at the expense of their separateness).

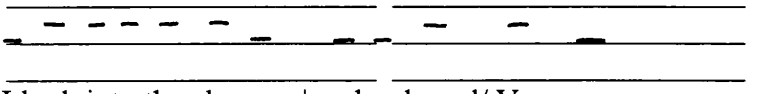
There is a larger cluster of echoes here: five readers make an echo, with the division between the tunes at *chasms*. Three of these add a third tune to the echo, on *doth hide them*.

Of those making an echo of two tunes, Reader 7 uses A1c tunes:



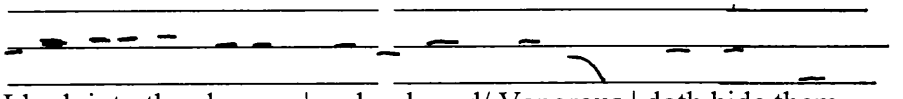
I look into the chasms, | and a shroud/ Vaporous

while Reader 9 uses A2a tunes:



I look into the chasms, | and a shroud/ Vaporous

The three readers, Readers 2, 4 and 8, who make an echo of three tunes all use A2a tunes, for example Reader 4:



I look into the chasms, | and a shroud/ Vaporous | doth hide them

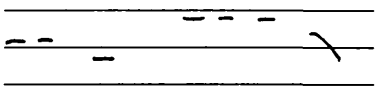
The cohesion between the segments of text encompassed by the echo here is the logical cohesion between an action (*I look into the chasms*) and its consequence, what the action reveals to view. (The perception of this cohesion is aided by the fact that the two parts are adjacent, and in the same sentence.) Now the five readers who make

an echo here all - whether or not they add *doth hide them* to the echo - divide the second ('consequence') clause in two prosodically, giving separate tunes to subject (*and a shroud/ Vaporous*) and predicate (*doth hide them*). To divide subject from predicate prosodically is common enough in all speech, especially if the subject consists, as here, of a noun phrase of more than one word. But the cases of the two readers who do not include *doth hide them* in the echo are an example of the way pitch pattern parallelism has some independence from the text it is associated with. In these cases an echo takes place; its tunes are associated with two related pieces of text, but those pieces in themselves do not make complete sense: *I look into the chasms, and a shroud Vaporous*. The echo can be related to part of the poem's rhetorical structure, but is not tied precisely to it; the pitch patterns of the echo do not stake out the rhetorical relationship exactly.

We can also note here that this is one of the few places where most readers allow pitch-pattern structure to cut across lineal structure: a single tune encompasses the run-on *shroud/ Vaporous*. The line boundary here divides a noun phrase and, although the adjective is deviantly placed after the noun, it is not a complex noun phrase. The run-on is consequently strong; it takes a cue this strong before a run-on is marked by prosodic grouping rather than by the choice of discontinuity features (see 19.2). (Reader 5, who has no echo here, is the only reader to have *shroud* and *Vaporous* in separate tunes.)

even such,/ Even so vague

Five readers make an echo here, all using A2a tunes, as for example Reader 1:



even such,/ | Even so vague

Here the cues for making an echo are probably the strongest in the poem. The segments encompassed by the recurring tunes are adjacent. There is a parallelism: each segment consists of the word *even* followed by a reference to a characteristic of *man's sight of himself.* The two segments are both short; the parallelism can be apprehended at once. And the fact that they are in separate lines and are in apposition syntactically means that they will almost inevitably be given separate pitch contours (a prerequisite for a pitch parallelism); it is the echo which signals their affinity.

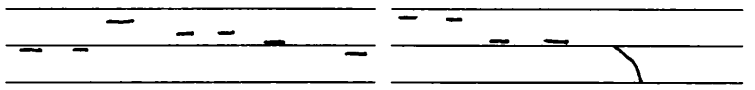
Most of the readers who make an echo here confine it to these two segments, but Reader 6 two following segments, *is man's sight* and *of himself* each with an A2a tune as well, adding them to the echo. (Reader 7 makes no echo on *even such,/ Even so vague*, preferring to make one on the sequence of subject and predicate in the single line *Even so vague | is man's sight of himself.*)

Thus much I know, that, a poor witless elf,/ I tread on them, that all my eye doth meet/ Is mist and crag

This sequence is one that readily attracts echoes, but readers differ in precisely where they make them. The sequence as a whole clearly attracts echoes because of its construction. It hangs together as a sequence: *Thus much I know:* introduces the topic of what is known; what that is is then revealed in two noun clauses in apposition; there

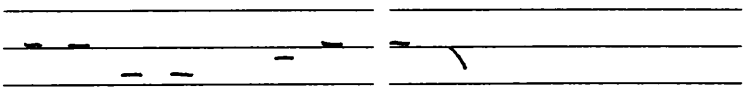
is a syntactic parallelism. The length and syntactic complexity of these noun clauses in themselves make likely their division prosodically into several tunes, but the precise location and extent of the echoes shows again the partial independence of text and prosody: we get little agreement on where the echoes come, but some agreement, because of the parallel construction, that there should be echo somewhere in the sequence.

Reader 3, then, has an echo using A1a tunes between the beginnings of the two noun clauses, signalling the parallelism of the *that... that...* construction:



that, a poor witless elf... | that all my eye doth meet...

Reader 4 uses A1a tunes for *Thus much I know,* and *I tread on them.*, where there seems little reason for an echo except for the relative proximity of the segments and their presence somewhere within this sequence. Reader 6 uses A2a tunes to mark the end parts of the noun clauses:

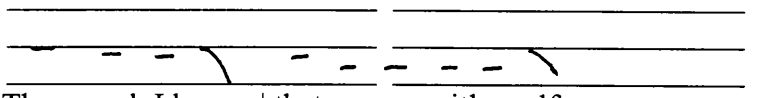


...I tread on them, | ...Is mist and crag,

These parts of the clauses both resolve the tension created by what has preceded them: in the first case the main part of the clause occurs following an adverbial noun phrase that has delayed it (*a poor witless elf*); and in the second the predicate of the clause occurs following a complex subject, *all my eye doth meet* (a noun clause in its own right in fact). In both cases the conclusion of the clause occurs immediately following

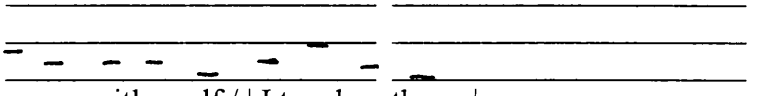
a line boundary; what follows the line boundary provides a release following the arrest caused by the clause being perceptibly incomplete when the line boundary intervenes. This identity of position is also marked by the echo.

Reader 8 has an echo of A4c tunes between *Thus much I know,* and *that, a poor witless elf,*:

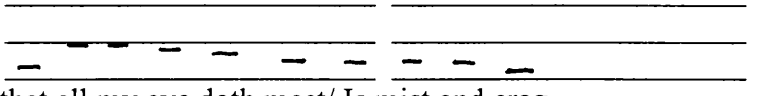


Thus much I know, | that, a poor witless elf

What links these segments is that they are adjacent, and together form a complete line, and that *Thus much I know* refers cataphorically to the contents of the noun clauses that follow. What separates them is the second half of the line coheres syntactically more strongly with the rest of the noun clause that it begins than with *Thus much I know*. Reader 9 makes an echo of three A1a tunes as follows:



a poor witless elf,/ | I tread on them, |



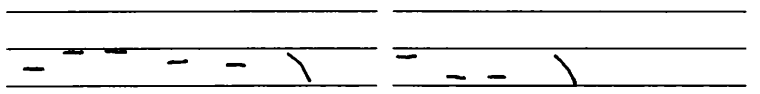
that all my eye doth meet/ Is mist and crag

These three tunes occur on adjacent segments, and they stake out the two noun clauses (in the case of the first, minus the conjunction *that*). But whereas the second clause is rendered by a single tune, the first is divided into two: the echo is not between the two parallel clauses simply. Both clauses are divided by a line boundary; presumably for

Reader 9 the interpolation in the first clause of the adverbial *a poor witless elf* is a sharper kind of arrest than the division of subject from predicate in the second.

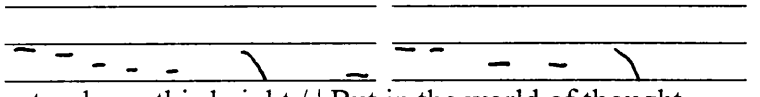
not only on this height,/ But in the world of thought and mental might.

This sequence is divided into three prosodically, with the divisions coming after *height* and *thought*. Six out of nine readers have an echo in some part of this sequence. Readers 1 and 4 have one, made with, respectively, A1c and A1a tunes, between *But in the world of thought* and *and mental might*. Reader 1, for example:



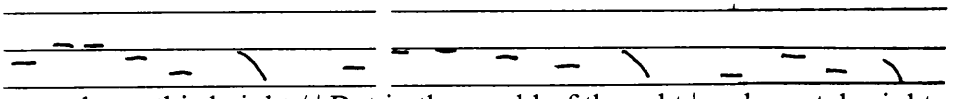
But in the world of thought | and mental might.

Readers 2 and 3 make an echo, both using A1c tunes, between the first two segments in the sequence, as in Reader 2's



not only on this height,/ | But in the world of thought

(Reader 3 has an additional A1c on the preceding *Is mist and crag*, adding it to the echo, and emphasising the integrity of the single line *Is mist... height.*) Readers 6 and 8 include all three parts in the echo, again both readers using A1c tunes. This is Reader 8:



not only on this height,/ | But in the world of thought | and mental might.

Now syntactically the three textual segments are not equal. The *not only... But...* construction balances *not only on this height* with everything from *But* onwards; *and mental might* is just one part of the latter; at a lower level of the syntactic hierarchy it is coordinated with *the world of thought*, both being complements of the preposition *in*. But coordination at any level of the hierarchy is dealt with in the same way, by placing the coordinated segments in separate prosodic domains which can be marked as equivalent by an echo; and two readers as we have seen mark all three segments, even though we shift down a level in the syntacitc hierarchy in the course of the three tunes. Echo marks cohesion or affinity between separate syntactic constituents, but it is not tied absolutely to syntactic or rhetorical structure.

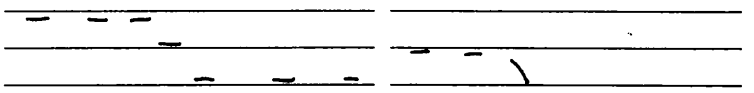
16.1.2 Lower incidences of echo

There are in fact fewer places than one might suppose where many readers make an echo. There are several places which, according to the criteria of parallelism and proximity, one might expect would attract a large number of echoes but which in fact attract only a few. The notable cases of this are as follows:

Read me a lesson, Muse, and speak it loud

This constitutes an entire line; it is indeed the first line of the poem. It consists of two adjacent coordinated clauses which both have imperative verbs. This is an extension structure: the prepositional phrase, beginning with *Upon*, which postmodifies the second clause, is not essential to the clause's completeness, and does not begin until

the following line. As far as the first line is concerned, here are two very similar clauses. Yet the only reader to make an echo here is Reader 5, who has two A2a tunes:



Read me a lesson, Muse, and speak it loud/

The preference among other readers is to make an echo across the line boundary between *and speak it loud* and its postmodification *Upon the top of Nevis* (see 16.1.1 above), or to make the whole sequence *and speak... Nevis* as single tune, as Readers 3, 4 and 9 do. There is also some preference for a completive sequence (see chapter 18) in the first line.

I look into the chasms* and *I look o'erhead.

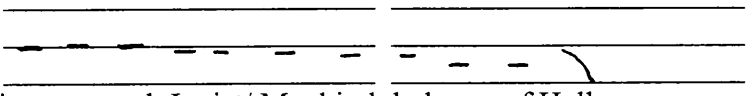
There is an obvious equivalence between these two segments: they are semantically parallel in themselves (*I look* + [downwards/upwards]); and they both occur at the beginning of semantically parallel sequences referring to looking in a particular direction, seeing mist and making an abstract reflection on human knowledge of the metaphysical. Yet no reader makes an echo here. In fact the preference is to bring out not the similarity but the contrast between these segments: five out of nine readers have an A tune on *I look into the chasms* but a B or C tune on *I look o'erhead.* The final rise of a B or C tune allows *o'erhead* to contrast prosodically with *the chasms.* It also ends the tune with an 'unresolved' feel; resolution comes with an A tune on the

immediately following *And there is sullen mist.* (This phenomenon is discussed fully in chapter 18.)

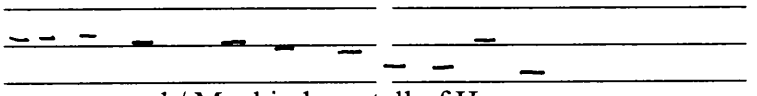
Moreover, although there is no echo between *I look into the chasms* and *I look o'erhead* there is between *and a shroud/ Vaporous doth hide them* and *And there is sullen mist*: Readers 1, 3 and 6 have this (the latter two confining the first limb of the echo to *and a shroud/ Vaporous*). These sequences as a whole are not devoid of echo.

just so much I wist/ Mankind do know of Hell* and *even so much/ Mankind can tell of Heaven

As in the previous case, two segments with an obvious parallelism (and parts of the same sequences as before) do not have this parallelism reflected by a large number of echoes. In this case, however, we do not find that they attract no echoes at all. Reader 1 has an echo of A1c tunes between precisely these segments:

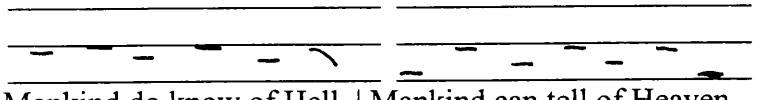


just so much I wist/ Mankind do know of Hell.



even so much/ Mankind can tell of Heaven.

And Reader 5 has an echo of A2b tunes from *Mankind* onwards in each case:



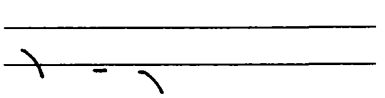
Mankind do know of Hell. | Mankind can tell of Heaven.

Presumably the graphological remoteness of the parallel segments from each other is a hindrance to their being singled out for echoes; the processing of the text for the assignment of prosodic patterns may function more readily at a very local level.

16.1.3 A3 echoes

The nature of the A3 tune, dependent as it is for its deployment on the existence of short segments of text which the reader wishes to separate off prosodically (see 15.2.2.1), obviously means that echo of A3 tunes can only occur between textual segments which provide such a context for A3. Rather than echoing, therefore, A3 tunes are more likely to form similarities with other types of A tunes, in contexts which might have attracted echoes if only the segment of text rendered by the A3 tune had been long enough to allow the use of whichever other type of A tune is used in the other limb of the similarity (see 17.2.5).

In this poem indeed, the only echoes of A3 tunes are those made by Readers 1 and 6 on *blind in mist!* Reader 6, for example:



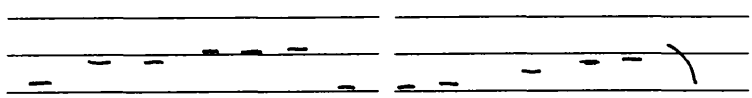
blind | in mist!

16.1.4 Echoes of the minor A tune types

Two of the rarer A tune types - A2b (Reader 5: *Mankind do know of Hell + Mankind can tell of Heaven*) and A4c (Reader 8: *Thus much I know, + that, a poor witless elf*) have only one echo each. We may note that the choice of an unusual tune type to manifest an echo makes the echo clearer: since the tune type itself is foregrounded its recurrence will also be. In such a case we can infer more easily that the echo is a deliberate attempt to highlight the co-occurring parallelism in the text. In particular, in Reader 5's A2b echo the two tunes manifesting the echo are some distance apart; the use of A2b tunes rather than a common tune type makes the echo more clearly identifiable.

16.1.5 The D1 tune

There is one echo that uses D1 tunes, that made by Reader 3 on:



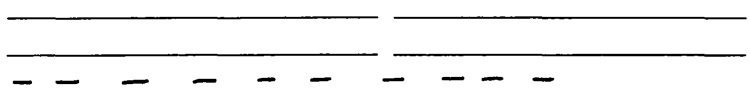
Mankind can tell of Heaven. | is man's sight of himself.

The parallelism between these two segments is, as we have seen, that they are both abstract conclusions about human knowledge drawn from concrete natural phenomena observed; and since the echo here deploys an uncommon tune type it is particularly foregrounded. There is, however, another aspect to this echo. The D1 tunes contrast with the A tune this reader uses for *Mankind do know of Hell* through having an initial rise which the A tune does not have. Hence the variation of the three propositions is

flagged by this contrast even as their similarity is brought out by the echo between the latter two tunes, and the fact that all three tunes end with a fall.

16.1.6 The F tune

There is one echo composed of F tunes. Reader 9 who is the only reader of either poem who has more than one F tune has an echo on the discontinuous segments:



There may seem nothing that binds these segments together and so justifies calling the coincidence of tune type an echo, especially as *vague is man's sight of himself* has a tune to itself by default, as a result of Reader 9 having mistaken the preceding words *Even so* as the stock phrase. There is, however, this: that both these textual segments are parts of larger sequences of information belonging together, *Mist is spread/ Before the earth, beneath me* and *even such,/ Even so vague is man's sight of himself*; the F tunes realise the ends of the sequence in each case; their constant level pitch as it were dissipates the sequences.

16.2 Echoes in the MacNeice data

We now turn to examining the echoes in the MacNeice data. Since there are here rather more echoes of A3 and the minor A tunes than the very few that occur in the Keats, discussion of them is incorporated into the main body of the analysis. There

Table 15 - MacNeice: echoes

Reader:	10	11	12	13	14	15	16	17	18	19
Text										
The further-off people are the smaller.		A1a								A1c
the smaller.			A3				A3			
Homeric heroes	A2a	A2a	A2a	A2a			A2a	A2a	A2a	A2a
and suffering Bantu/	A2a	A2a	A2a	A2a			A2a	A2a	A2a	A2a
Are nothing in size									A1a	
to the tax-collector/							A2a		A1a	
Or the dentist breathing fire							A2a			
Or the dentist	A3				A3					
breathing fire	A3					A2a			A2c	
on one's uvula.//	A3				A3	A2a			A2c	
Or the dentist breathing fire on one's uvula.//		A1c								
So the stunted commissionaire bulks larger/		A1c								
So the stunted commissionnaire	A1c				A2b		A1c			A1c
bulks larger/								A3		
Than the massive magnate				A2a	A2b					
at the turn of the stairs/				A2a			A1c			A1c
While the coffin entering by the west door/	A1c									A1c
While the coffin						A3		A3		
entering						A3				
entering by the west door/			A2a	A2a					A1c	
Screens the chancel and dwarfs the altar.//									A1c	A1c
Screens the chancel			A2a	A2a	A2b			A2b		
And dwarfs the altar.//			A2a	A2a	A2b			A2b		
Screens	A3					A3				
the chancel	A3					A3				
and dwarfs	A3									
the altar.//	A3									
Yet sometimes										A3
for all these rules of perspective/	A1a				A1c		A1c	A1c	A1c	
of perspective/										A3
The weak eye zooms,	A1a	A1a		A1c	A1c		A1a	A2a	A1c	A1c
the distant midget/ Expands to meet it,								A1c		A1c
the distant midget/	A2a			A2a	A2b				A1c	
Expands to meet it,	A2a						A1c		A1c	
Expands				A3	A3					
to meet it,				A3	A3					
far up stage/	A2a	A1a		A2a			A1a	A2a	A1c	
far up stage/ The kings go towering					A2b					
The kings go towering into the flies;//				A1c			A1c	A1c	A1c	A1c
And down at the end of a queue				A1c	A1a			A2a		
Of the year Two Thousand		A1a						A2a		
straddles the world/		A1a			A1a	A1c	A1a	A2a	A1c	A2a
To match the child that was once yourself./		A1a			A1a					
To match the child			A2a					A2a	A1c	A2a
that was once yourself./			A2a			A1c	A1a		A1c	
The further-off people are sometimes the larger.		A1a								
The further-off people								A2a		
are sometimes the larger.								A2a		A1c
are sometimes			A3	A3					A3	
sometimes							A3			
the larger.			A3	A3			A3		A3	

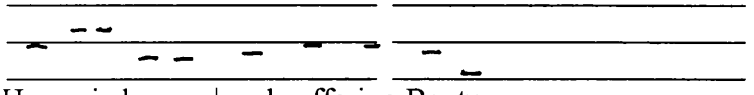
are in the MacNeice data no D or F tune echoes. The echoes in the MacNeice data are shown in table 15, which should be read in the same manner as table 14 (see 16.1).

16.2.1 Clusters of echoing

As in the Keats, in the MacNeice readings echoes cluster at significant points in the text.

Homeric heroes and suffering Bantu

Eight out of ten readers make an echo here, all with A2a tunes, for example Reader 10:



Homeric heroes | and suffering Bantu

This is the highest incidence of echo occurring on exactly the same textual segments in each case (there are other instances of eight out of ten readers making an echo in the same general area, as we shall see). It is not difficult to see why there is a high incidence of echo in precisely this spot: *Homeric heroes* and *suffering Bantu* are two items in the same list - there is, that is to say, a link between them, although they are clearly separate entities; they are adjacent, and they are syntactically coordinated; and they occupy half a line each, and together constitute a single full line, with the integrity that gives them. Now this line alone contains only part of the listing construction: there is one more item, *Grandparents* which precedes it, and initiates the

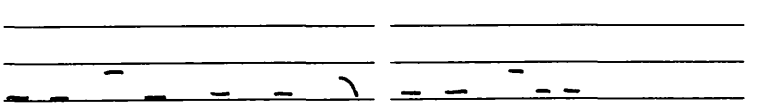
list. All readers give *Grandparents* a tune ending in a rise (B or C) or an F tune (level throughout). These tunes signal that the construction is incomplete when the line boundary is reached; the other two items together provide the completion (see chapter 18).

Or the dentist breathing fire on one's uvula

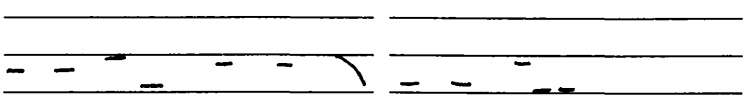
This, like *Homeric heroes and suffering Bantu*, is a single line, with the integrity that gives. The line is divided into three tunes by most readers, thus:

Or the dentist | breathing fire | on one's uvula.

The echoes which occur in this line are presumably cued by the facts that these constituent parts are adjacent, and that they constitute a complete (though non-finite) clause and a whole verse line. In prosodic terms, however, the effects of these stimuli are not clear-cut. Four readers have some kind of echo within this line alone, all of whom have the same tripartite *division* into prosodic groups; but only Reader 10 includes all three segments in the echo, using A3 tunes thus:



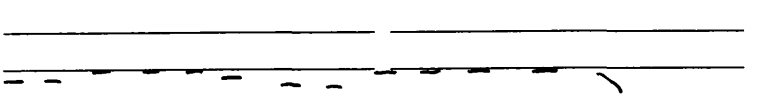
Reader 14 very nearly matches this, having a sequence of three tunes, A3 + A2c + A3:



Or the dentist | breathing fire | on one's uvula.

She has an echo between the first and last constituents of this sequence of course; but all three tunes have a prenuclear component lower than the initiation point of the final fall. The only difference between the middle, A2c tune and the other two is that the former has the pitch prominence of the onset on *breath-* which, being a *pitch* prominence makes a greater contribution to the melody; the prenuclear components of the A3 tunes consists only of their preheads. Readers 15 and 18 do something similar: they have echoes - using, respectively, A2a and A2c tunes - between *breathing fire* and *on one's uvula*. For both *Or the dentist* is rendered by an A3 tune. Since *Or the* is not easily accentable and so does not readily provide a context for an onset this is a likely context for A3; here again we have a near-echo. For more on the likeness of tunes of different types see chapter 17.

Two readers use echo to link line 4 with the preceding or following line. Reader 16 has an echo of A2a tunes thus:

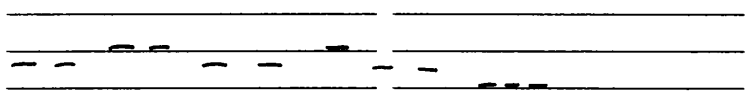


to the tax-collector/ | Or the dentist breathing fire

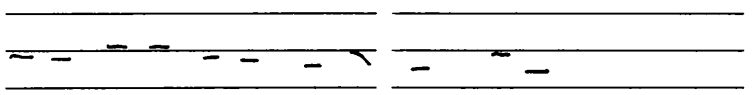
The link between the two segments echoed is that they are both being used in the same comparison: 'Are nothing in size to *x* or [to] *y*'. However, the greater syntactic complexity of *Or the dentist breathing fire one one's uvula* means that the second tune

of the echo does not take in all of it - there is an early closure; but it does take in enough, including the head noun, to mark it as the second item in the comparison.

Reader 11 makes an echo which looks forward into the next stanza, using A1c tunes:



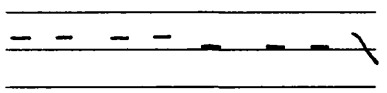
Or the dentist breathing fire on one's uvula.//



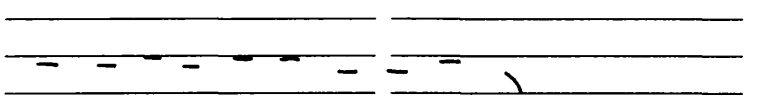
So the stunted commissionaire bulks larger

The two lines are adjacent, but are on opposite sides of a stanza boundary. This is a strong formal barrier, and here there is some topic shift at the beginning of the new stanza as the poem moves on to a fresh example. On the surface this is not a likely context for an echo. Each of these tunes, however, encompasses a whole line, and Reader 11 does tend to favour long tunes. Also, the two stanzas are linked at the discoursal level by *So*: a proposition is stated and exemplified in the first stanza, then further exemplified in the second: *So* introduces further consequences of the proposition stated in the first line of the poem. Reader 11, by echoing the end of the first with the beginning of the second, links together the entire stanzas by making an echo between individual lines of them. This is another manifestation of an echo which is attracted to a general area - in this case the whole stanzas - but without taking place on directly comparable segments.

Four other readers have echoes centred on this line. Reader 10 uses A1c tunes to render:



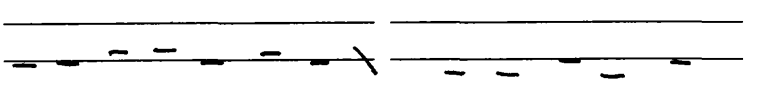
So the stunted commissionaire



While the coffin entering by the west door

Both segments of the echo are noun phrase subjects of verbs (of *bulks* in the first case, of *screens* and *dwarfs* in the second); and both begin at the beginnings of lines (the second occupies a whole line). They also both begin exemplifications of the principle stated in the poem's first line.

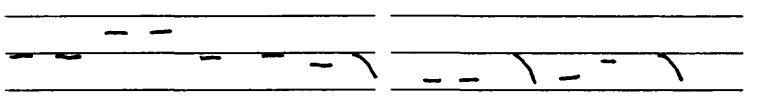
Reader 14 has this echo of A2b tunes:



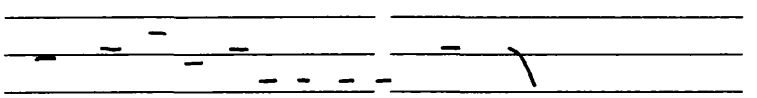
So the stunted commissionaire | Than the massive magnate

These segments are the beginnings of successive lines. They both consist of the form conjunction + article + adjective + noun. And they are parts of a comparision: the first item *bulks larger* than the second.

Two other readers, Readers 16 and 19, have more haphazard examples. Reader 16 uses A1c tunes to echo *So the stunted commissionaire* and *at the turn of the stairs*; there seems little but proximity and the general inclusion of both segments within this sequence of examples to explain this. Reader 19 also uses A1c tunes, and has not only these two segments, but another whole line after them:



So the stunted commissionaire | at the turn of the stairs/



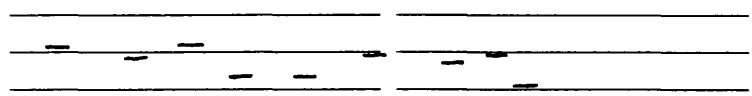
While the coffin entering by the west door

The second and third segments here are adjacent, and the echo between the first and third recalls that made by Reader 10 between these two segments. Overall, the echoes in this part of the text demonstrate again, by the variation between them in which precise aspect of the textual parallelism readers mark, the partial independence of textual and prosodic structure.

Screens the chancel and dwarfs the altar

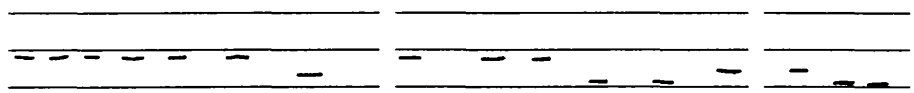
This is an easily predictable context for echo. It consists of two coordinated predicates of the same subject, both of the form present tense verb + article + noun denoting part of a church; each of these occupies a half-line, and together they constitute a full line. It is also a list, of actions which occur not consecutively (as is probably more typical for lists of actions) but simultaneously; there is a close semantic link between them because the one action of *entering by the west door* causes both the

simultaneous actions related in line 8. Readers 12, 13, 14 and 17, the largest possible minority of readers, have an echo such as this analysis would predict, of two tunes, one assigned to each half-line. Readers 12 and 13 use A2a tunes, and Readers 14 and 17 A2b. Here, for example is Reader 17:



Screens the chancel | and dwarfs the altar.

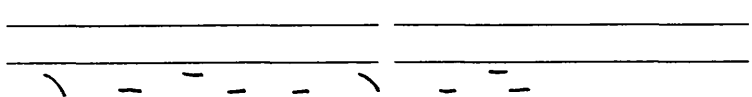
Both the readers who use A2a tunes include in the echo the postmodification of the verbs' subject, for example Reader 12:



entering by the west door/ | Screens the chancel | and dwarfs the altar.

The echo, then, includes the subject of the clause but is not co-extensive with it.

Reader 10, on the other hand, while confining the echo to a single line, divides the verbs from their objects and makes an echo of four A3 tunes:

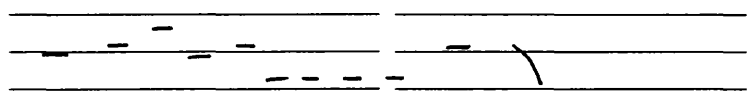


Screens|the chancel | and dwarfs|the altar.

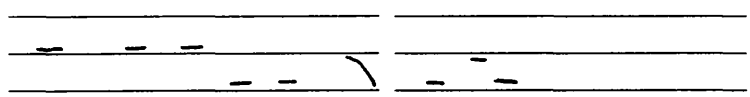
Reader 15 does something similar, having an echo of A3 tunes on *Screens* and *the* Screens|the *chancel* then an A2a on *and dwarfs the altar*. These cases are comparable with the tendency to divide *Or the dentist breathing fire on one's uvula* into three prosodically. The division is accomplished in part by pause or retardation of the kind Abercrombie

(1971) calls *silent stress*, and is here surely what he identifies as the *terminal function* of silent stress, where the approaching end of an utterance is marked by the insertion of prosodic divisions which are unnecessary for the simple conveyance of the message: in this case it marks the end of the stanza.

Two more readers link this line with its predecessor. Reader 19 makes an echo of A1c tunes thus:



While the coffin entering by the west door/ |



Screens the chancel and dwarfs the altar.

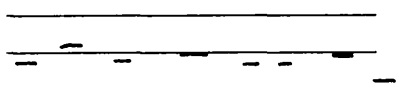
Here the echo forms a link between two complete lines as well as between subject and predicate. Reader 18, also using A1c tunes, does the same sort of thing in textual terms but includes only *entering by the west door* in the first tune of the echo; the second tune contains the entire line *Screens the chancel and dwarfs the altar*.

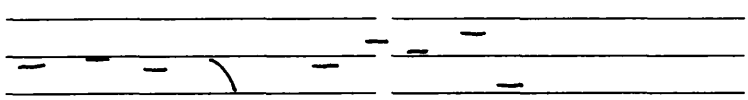
The third stanza

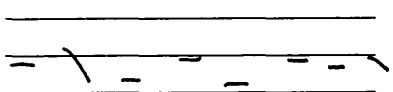
The syntactic parallelism in the poem's third stanza attracts echoes in large numbers, only Readers 12 and 15 having none here at all. The parallelism consists of a list of three matrix clauses of successively increasing length, all premodified by the same pair of adverbials (*Yet sometimes for all these rules of perspective*). Because the clauses increase in length and become more complex we expect some prosodic

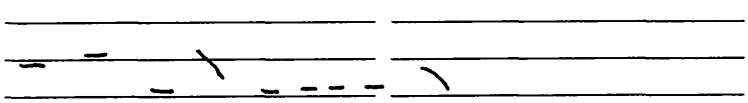
subdivision of the two later, longer ones, and consequently some variation of where precisely echoes fall: the prosodic subdivision as such is a function of the increasing length and complexity, while the echoes between the clauses bind the latter together as parallel structures (they are all simple present tense statements) even though the tunes carrying the echoes may not encompass a whole clause.

Reader 18 marks most clearly the grammatical cohesion of the whole stanza. He has A1c tunes running through almost the whole stanza, thus:


for all these rules of perspective/ |


The weak eye zooms, | the distant midget/ |

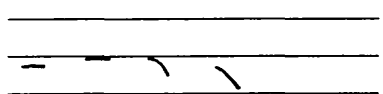

Expands to meet it, | far up stage/ |

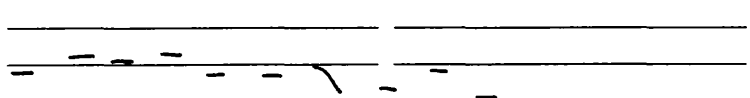

The kings go towering into the flies;//

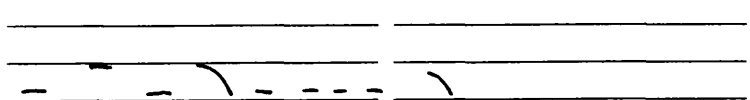
These tunes take in, respectively: the second of the two adverbials; the whole of the first, shortest, clause; the subject, then the predicate, of the second; the additional adverbial (*far up stage*) that belongs to the third clause; and the remainder of that clause. The integrity of the lines is preserved here: the tune boundary between *midget* and *Expands* is a division between lines as well as between subject and predicate of course; and the prosodic division of the third clause after *stage* - also at a line

boundary - is the only one that takes place in this clause even though the remainder of the clause, *The kings go towering into the flies*, is itself relatively long and complex; it does, however, occupy a whole line to itself, and this congruity of lineation and syntax is preserved.

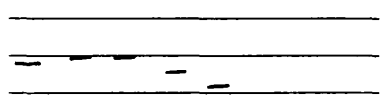
Reader 19 also marks the parallelism between the list of three clauses, but less extensively, having a chain of three A1c tunes, encompassing respectively the first two whole clauses and all of the third except for *far up stage* which is of course divided from the rest of the clause by a line boundary:


The weak eye zooms, |

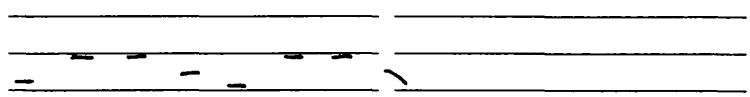

the distant midget/ Expands to meet it, |


The kings go towering into the flies;//

Reader 10 uses echoes through most of the stanza, but has two separate but consecutive echoes. These are between two A1a tunes on *for all these rules of perspective* and the first of the three matrix clauses which immediately follows it, *The weak eye zooms*; and between three A2a tunes on the two halves of the second clause and the adverbial of the third:



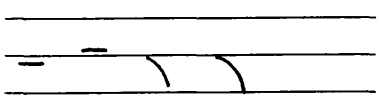
the distant midget/ |



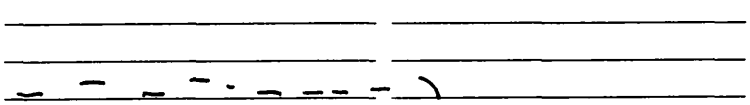
Expands to meet it, | far up stage/

The inclusion in this echo of *far up stage* but of none of the rest of that clause is probably due to the fact the a line boundary immediately follows *stage.* At any rate this sequence of three tunes is another example of the way the clauses get subdivided as they get longer - *The weak eye zooms*, although it is not part of this echo, is rendered with a single tune.

Readers 13 and 14 have echoes between non-consecutive segments, with other echoes occurring between the parts of them. Reader 13, for example, has an echo of A1c tunes between the first and third of the list of three clauses, thus:

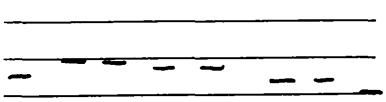


The weak eye zooms, |



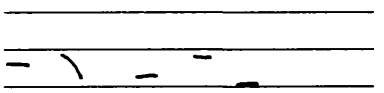
The kings go towering into the flies;//

In between these two tunes, however, there is this echo of A2a tunes:



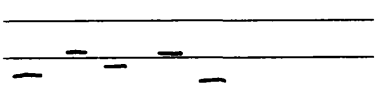
the distant midget/ | far up stage/

And in between *these* tunes there is this echo of A3 tunes, linking the consecutive segments:

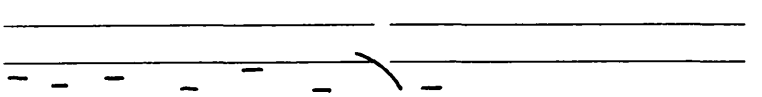


Expands | to meet it

which together constitute the predicate of the clause whose subject, *the distant midget* forms part of the A2a echo: if this predicate is to be subdivided prosodically the segments become short enough to provide a context for A3 tunes. Reader 14 has an echo of A1c tunes between *for all these rules of perspective/* and the immediately following *The weak eye zooms*, and one of A2b tunes thus:



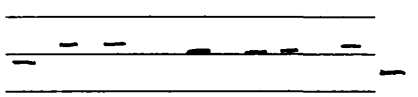
the distant midget/ |

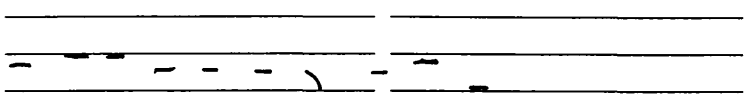


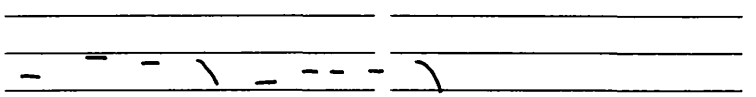
far up stage/ The kings go towering

Between these non-consecutive tunes she, like Reader 13, has an echo of A3 tunes between *Expands* and *to meet it*.

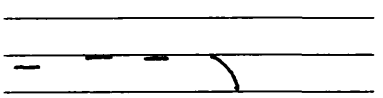
Readers 16 and 17 each cover most of the stanza with two interlocking echoes. Reader 17 has an echo of three A1c tunes thus:

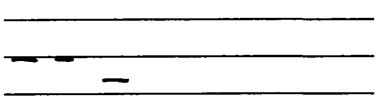

for all these rules of perspective/ |


the distant midget/ Expands to meet it, |

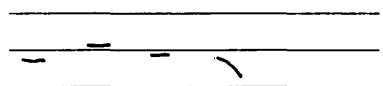

The kings go towering into the flies;//

In the gaps between these tunes fits this echo of A2a tunes:

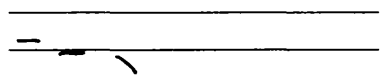

The weak eye zooms, |


far up stage/

These two echoes between them comprise the tunes that cover the entire stanza except for *Yet sometimes*: the tunes cover the second of the two adverbials common to the three clauses, the whole of the first clause, the whole of the second, the adverbial of the third and the remainder of the third. Reader 16 nearly matches this. She has an echo of A1c tunes which is identical to Reader 17's except that the middle one of the three for Reader 16 covers only *Expands to meet it*; *the distant midget* is omitted from the sequence. Like Reader 17, Reader 16 has another echo between *The weak eye zooms* and *far up stage*, but uses A1a tunes:



The weak eye zooms, |



far up stage/

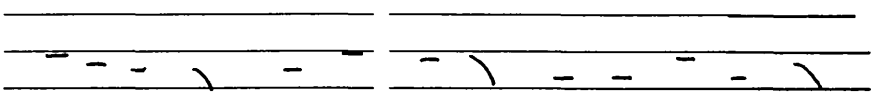
(Reader 11 has an echo of A1a tunes on these same textual segments, his only echo in this stanza.)

In the five cases of Readers 10, 13, 14, 16 and 17, then, the precise choice of textual segments between which echoes occur has a degree of arbitrariness about it, but as we have seen elsewhere, there is agreement that echo should occur somewhere in this broad area: if all the echoes each reader makes in the stanza as a whole are put together we have a chain of similar tunes which between them stake out the parallel syntactic structure of the entire stanza; to use a single echo to mark a construction with such a wide spread, as Reader 18 does, would seem a rarity.

straddles the world/ To match the child that was once yourself

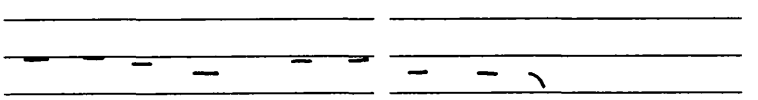
Eight readers have an echo of some kind centred on this sequence. The relationship between the parts of it is one of subordination: a predicate contains an infinitive clause adverbial whose object is a complex noun phrase which contains a relative clause. These parts contribute to the formation of the complete clause, and are adjacent.

Five readers confine the echo to this sequence - the predicate of a clause - alone. Reader 18 divides it into three A1c tunes (recalling his rendering of the previous stanza):



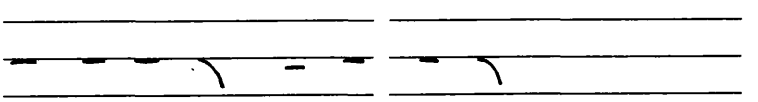
straddles the world/ | To match the child | that was once yourself./

This divides the sequence into its most obvious syntactic divisions, at the points where new clauses begin. Reader 18 is, however, the only one of the five readers who confine their echo to this sequence who includes the whole of the sequence. Readers 15 and 16 have an echo only between the non-adjacent *straddles the world* and *that was once yourself*; Reader 15 uses A1c tunes, and Reader 16 A1a tunes, thus:



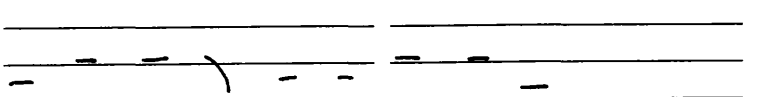
straddles the world/ | that was once yourself./

Reader 19 has an echo of A2a tunes between the first two segments of the sequence:



straddles the world/ | To match the child

while Reader 12 also uses A2a tunes, but on the second two segments:

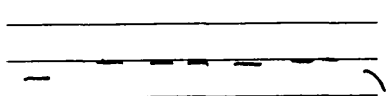


To match the child | that was once yourself./

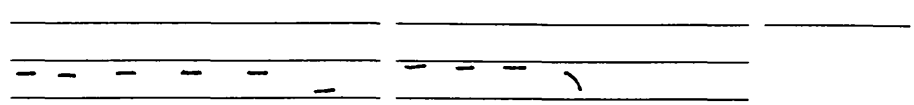
Since these two segments together constitute a single line this might seem a more obvious place to make an echo than between *Straddles the world* and *To match the child*; on the other hand there is a logic to the latter that turns on the very fact that they are not in the same line. Reader 19's echo flags the fact that, though a line boundary comes between *child* and *that*, and the two segments are placed in separate tunes, there is nonetheless a strong syntactic cohesion between them: they are part of the same noun phrase. The echo works to bind and to separate, in accordance with the principle discussed in 15.4.1.

Three other readers have echoes that wholly or partly include this sequence but also reach beyond it to parts of the text which precede or follow it. Reader 11 has an echo of A1a tunes which binds *straddles the world* to *To match the child that was once yourself.* The noun phrase subject of the clause, *some infant/ Of the year Two Thousand* is, however, also brought into the echo by the employment of a third A1a tune on the subject's postmodification, *Of the year Two Thousand* which comes immediately after a line break that divides the noun phrase in two. This no doubt explains the prosodic division into two of the noun phrase; and that *some infant* is not included in the echo can be attributed to the fact that it is short enough to provide a context for one of the short tunes, although in this case a C2 rather than an A3 (see 15.2.2.3).

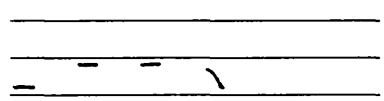
Reader 17 has a similarly far-reaching echo of A2a tunes:



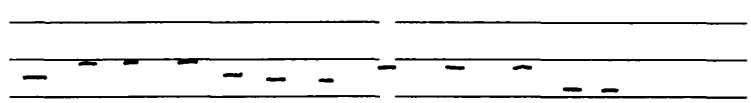
And down at the end of a queue |



Of the year Two Thousand | straddles the world/ |



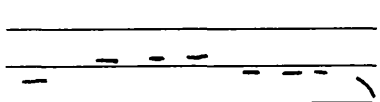
To match the child |



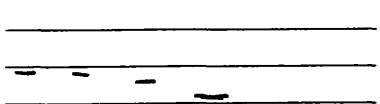
The further-off people | are sometimes the larger.

This includes the adverbial *And down at the end of a queue* and the postmodification of the subject of the clause, *Of the year Two Thousand* (Reader 17 gives *some infant* an A3; compare Reader 11's C2), but leaves out *that was once yourself*, while including the poem's last sentence even though *that was once yourself* has a better claim to be included in the echo.

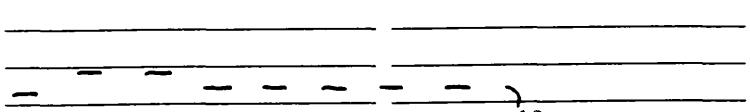
Finally Reader 14 has an echo of three A1a tunes. She omits the subject of the clause from the echo altogether, while including the predicate and the initial adverbial. The final adverbial infinitive clause is given a single tune:



And down at the end of a queue |



straddles the world/ |



To match the child that was once yourself.

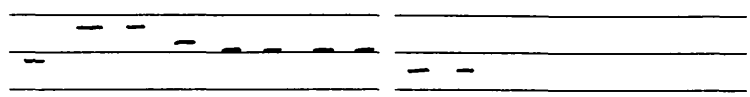
16.2.2 Lower incidences of echo

There are two notable cases here:

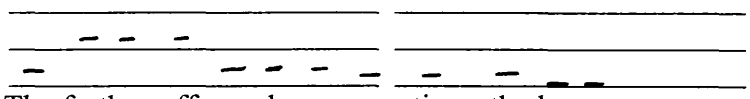
The further-off people are the smaller* and *The further-off people are sometimes the larger.

There is an obvious parallelism between these two sentences in form, and a basic one in meaning, in that the contrast at the end is between two comparative adjectives of directly opposite meaning. There is an additional semantic parallelism in the context of the poem: the principle is stated that *The further-off people are the smaller* and examples of this given. But then additional evidence leads to the conclusion that *The further-off people are sometimes the larger.* The two sentences' positions at, respectively, the beginning and end of the poem are congruent with the chiastic structure of the poem as a whole (see 6.1.2).

Only a minority of readers, however, have any kind of echo between the two sentences. There are four such cases, but two of these are rather doubtful. Reader 11 has the most convincing example, giving a single A1a tune to the whole of each sentence:



The further-off people are the smaller.



The further-off people are sometimes the larger.

Reader 19 comes close to this, using an A1c tune for the whole of the first sentence, but only for the second half, *are sometimes the larger* of the second.

Less convincing are Readers 12 and 16 who divide both sentences prosodically (both readers are amongst those who gloss the first sentence as 'The further-off [that] people are, the smaller', and Reader 16 is the only one who gives an equivalent gloss to the last sentence). Their prosodic division of the sentences allows them to use A3 tunes on both of the short segments *the smaller* and *the larger*. The reason why this is a dubious example of an echo is that the A3 tunes used for *the larger* also echo with other A3 tunes that immediately precede them, for Reader 12 on *are sometimes* and for Reader 16 on *sometimes*. Readers 13 and 18 also have echoes of A3 tunes between *are sometimes* and *the larger*. It seems more likely that it is this echo at the end of the poem which is the deliberately made prosodic parallelism and that it is simply coincidence that A3 tunes are also given to *the smaller* by Readers 12 and 16.

This also suggests the likely reason for the low incidence of echo between the beginning and end of the poem despite the syntactic and semantic parallelism between the first and last sentences. This is the physical distance between them. An echo works better if all the tunes included in it can be held simultaneously in the mind of

the hearer (and a reciter is also a hearer); and clearly this is easier if they are heard in reasonably quick succession. The first and last sentences of the poem are sufficiently far apart that the prosodic patterns with which they are recited are very difficult to hold in the mind simultaneously. A strong parallelism between parts of a text may count for little as a cue for echo compared with the close proximity of parts of a text; conversely, a very loose syntactic relationship between two segments of text (e.g. two main clauses which are coordinated but fairly dissimilar in form) is likely to attract a relatively high incidence of close prosodic parallelism if they happen to be adjacent, or at any rate very close together. For example, there is a far higher incidence of echo co-occurring with the subordinating syntactic relationships of the MacNeice poem's fourth stanza, than between the poem's first and last sentences.

16.3 Conclusion

This chapter has surveyed the contexts where echoes take place in the readings. We have observed that echo may be attracted to specific segments of the text or to a broad area, and that the cues to echo are textual parallelisms and/or segments in close proximity, in the latter case the echo sometimes being a function of early closure. We have looked at this in the context of the exact repetition of pitch contours, where likeness between contours is most easily defined. This, however, sets the scene for the next two chapters where, as we shall see, the same sorts of contexts can be found for affinities between pitch contours which are not identical, but have some resemblances.

Chapter 17

Pitch patterns in the recitations (2): similarity

Our examination in the previous chapter of where echoes occur has shown the kinds of context in which pitch parallelism occurs. But it is not necessary to repeat a pitch pattern exactly in order for there to be the sense of a recurring pattern, a 'chime' between two contours. This sense of recurrence can also be rendered by pairing pitch patterns which are not identical but merely very similar. The degree of recurrence is less than is conveyed by echo, but still makes a sharp impression; and this relationship between pitch patterns co-occurs with the same sorts of relationship between constituents of the text as does echo. I call this resemblance between tunes which are not identical but which do have features in common **similarity**; the word similarity in this context is therefore a technical term, and indicates a relationship between pitch contours which is distinguished from echo.

When similar but not identical tune types from a recurring pattern, the ground of the similarity, that is the feature or features shared by the tunes realising the similarity, obviously varies from pairing to pairing. In this chapter I examine pairs of similar tune types, exploring the ways the shared features of pitch patterns convey a sense of recurrence. In some cases of similarity pairs of non-identical tune types, by having shared features, flag a parallelism between the textual segments encompassed but, since some of their features are not shared, they can also flag a simultaneous difference between the textual segments: this phenomenon too I examine.

Table 16 - Keats: similarities

Reader:	1	2	3	4	5	6	7	8	9
Text									
A1a/A1c									
I look into the chasms,	A1a								
and a shroud/ Vaporous doth hide them;	A1c								
I look o'erhead,/			A1c						
and there is sullen mist;			A1a			A1c			
even so much/						A1a			
Thus much I know,							A1c		
that, a poor witless elf,/							A1a		
that all my eye doth meet/			A1a						
Is mist and crag,			A1c	A1a			A1a		
not only on this height,/				A1c			A1c		
But in the world of thought				A1a					
and mental might.				A1a					

A1a/A2a									
Read me a lesson, Muse,	A1a	A1a						A1a	A1a
and speak it loud/		A2a						A2a	A2a
Upon the top of Nevis,	A2a								
I look into the chasms,			A2a						
and a shroud/ Vaporous			A1a						
just so much I wist/			A2a						
Even so vague				A2a					
is man's sight of himself./				A1a					
Here are the craggy stones					A1a			A1a	
beneath my feet -/					A2a			A2a	
Thus much I know,				A1a					
that, a poor witless elf,/			A1a	A2a					
I tread on them,			A2a	A1a					
that all my eye doth meet/			A1a						

A1c/A2a									
I look into the chasms,					A2a				
Vaporous doth hide them;					A1c				
just so much I wist/			A2a						
Mankind do know of Hell.			A1c						
I look o'erhead,/							A1c		
And there is sullen mist;				A2a			A2a		
even so much/ Mankind can tell of Heaven.				A1c					
even such,/							A2a	A2a	
Even so vague					A2a		A1c	A1c	
is man's sight of himself./					A1c				
is man's sight									
of himself./									
Is mist and crag,						A2a		A2a	
not only on this height,/						A1c	A1c	A1c	
and mental might.							A2a		

Table 16 - Keats: similarities (cont.)

Reader:	1	2	3	4	5	6	7	8	9
Text									
Similarities including A3 tunes.									
Upon the top of Nevis,	A2a					A2a			
blind	A3					A3			
in mist!/	A3					A3			
I look into the chasms,					A2a				
and a shroud/					A3				
Vaporous doth hide them;					A1c				
and a shroud/ Vaporous			A1a			A1c	A1c		A2a
doth hide them;			A3			A3	A3		A3
Mist is spread/ Before the earth			A2b	A2a		A1c	A2b	D2a	
beneath me -			A3	A3		A3	A3	A3	

Similarities including A4 tunes.									
Mankind do know of Hell.						A4c			
Mankind can tell of Heaven.						A2b			
Even so vague	A2a							A1c	
is man's sight of himself./	A4a							A4c	
beneath my feet -/								A2a	
Thus much I know,								A4c	
that, a poor witless elf,/							A1a	A4c	
a poor witless elf,/		A2a							
I tread on them,		A4a					A4a	A4a	
But in the world of thought		A1c	A1c						
and mental might.		A4a	A4a						

Similarities including A1b, A2b and A2c tunes.									
and speak it loud/					A2a				
Upon the top of Nevis,					A2b				
and speak it loud/ Upon the top of Nevis,			A2b				A2b		
blind in mist!/			A1a		A1a		A2a		
I look into the chasms,									
Vaporous doth hide them;					A1c				
doth hide them;		A2a						A2a	
just so much I wist/								A2c	
Mankind do know of Hell.					A2b				
just so much I wist/ Mankind do know of Hell.		A1b							
And there is sullen mist;		A2a				A1c			
even so much/		A1a				A1a			
Mankind can tell of Heaven.		A2b			A2b	A2b			
Mist is spread/ Before the earth,							A2b		
even such,/			A2a				A2a		
is man's sight of himself./					A1c				
Here are the craggy stones	A1c								
beneath my feet -/	A2c								

Table 16 - Keats: similarities (cont.)

Reader:	1	2	3	4	5	6	7	8	9
Text									
Similarities including D tunes.									
Read me a lesson, Muse,	A1a			A2a					
and speak it loud/	D1								
and speak it loud/ Upon the top of Nevis,				D2b					
just so much I wist/ Mankind do know of Hell.							A1a		
Mankind do know of Hell.			A1c						
I look o'erhead,/					A1a				
And there is sullen mist;					D1				
even so much/ Mankind can tell of Heaven.							D1		
Mankind can tell of Heaven.			D1						
even such,/		D2b							
Even so vague		E1	A2a						
is man's sight of himself./			D1						
beneath my feet -/					A2a				
Thus much I know,					D2a				
that, a poor witless elf,/					A2a				

Similarities including F tunes.									
and speak it loud/ upon the top of Nevis,									A2a
Upon the top of Nevis,		A2a							
blind in mist!/		F							F
Mist is spread/ Before the earth,									A4a
beneath me -									F
Thus much I know,									
that,									
a poor witless elf,/									
that, a poor witless elf,/					A2a				
I tread on them,					F				

Table 17 - MacNeice: similarities

Reader:	10	11	12	13	14	15	16	17	18	19
Text										
A1a/A1c										
for all these rules of perspective/							A1c			
The weak eye zooms,	A1a						A1a			
far up stage/		A1a					A1a			
The kings go towering into the flies;//	A1c	A1c					A1c		A1c	A1c
And down at the end of a queue					A1a	A1a			A1a	A1a
some infant/ Of the year Two Thousand					A1c					A1c
straddles the world/					A1a	A1c				
To match the child	A1a			A1a						
that was once yourself./	A1c			A1c						
The further-off people	A1a									
are sometimes the larger.	A1c									

A1a/A2a										
and suffering Bantu/							A2a		A2a	
Are nothing in size							A1a		A1a	
The weak eye zooms,	A1a	A1a								
the distant midget/	A2a									
Expands to meet it,		A2a								
And down at the end of a queue						A1a				
some infant/						A2a				
straddles the world/							A1a			
To match the child							A2a	A1a		
that was once yourself./							A1a	A2a		

A1c/A2a										
and suffering Bantu/	A2a									
Are nothing in size to the tax-collector/	A1c									
So the stunted commissionaire bulks larger/				A1c						
Than the massive magnate				A2a			A2a			
at the turn of the stairs/							A1c			
entering by the west door/		A1c								
and dwarfs the altar.//		A2a								
for all these rules										A2a
for all these rules of perspective/								A1c		
The weak eye zooms,				A1c				A2a		A1c
the distant midget/				A2a						
the distant midget/ Expands to meet it,								A1c		
far up stage/	A2a			A2a				A2a		
The kings go towering into the flies;//	A1c			A1c				A1c		
some infant/						A2a				
some infant/ Of the year Two Thousand	A1c									A1c
straddles the world/	A2a		A1c			A1c				A2a
To match the child			A2a							A2a
that was once yourself./										A1c

Table 17 - MacNeice: similarities (cont.)

Reader:	10	11	12	13	14	15	16	17	18	19
Text										
Similarities including A3 tunes.										
The further-off people	A1b									
are the smaller.	A3									
The further-off people are							A1c			
the smaller.							A3			
Are nothing in size to the tax-collector/	A1c									
Are nothing				A3						
in size to the tax-collector/				D2a						
to the tax-collector/					A4a	A4a			A1a	
Or the dentist	A3			A3	A3	A3			A3	
breathing fire				A2c	A2c	A2a			A2c	
on one's uvula.//				A2a	A3	A2a			A2c	
So the stunted commissionaire								A2a		A1c
bulks larger/								A3		A3
at the turn of the stairs/				A2a					A4c	
While the coffin		A3	A3	A3			A3	A3	A3	
entering by the west door/		A1c	A2a	A2a			A1c	A1c	A1c	
While the coffin entering by the west door/	A1c									
Screens	A3					A3				
the chancel	A3					A3				
and dwarfs the altar.//						A2a				
Yet sometimes	A3			A3	A3		A3		A3	A3
sometimes								A3		
for all these rules of perspective/	A1a				A1c		A1c	A1c	A1c	
for all these rules										A2a
of perspective/										A3
The weak eye zooms,				A1c						
the distant midget/				A2a	A2b					
Expands				A3	A3					
to meet it,				A3	A3					
far up stage/ The kings						D1				
go towering						A3				
into the flies;//						A2a				
And down at the end of a queue				A1c				A2a	A1a	
some infant/				A3				A3	A3	
Of the year Two Thousand				A2c				A2a	D2b	
The further-off people				A2a	A4a				A2b	
are sometimes				A3	A1a				A3	
The further-off people are							A1a			
sometimes							A3			
the larger.				A3	A3		A3		A3	

Table 17 - MacNeice: similarities (cont.)

Reader:	10	11	12	13	14	15	16	17	18	19
Text										
Similarities including A4 tunes.										
Are nothing in size						A4c				
to the tax-collector/						A4a				
So the stunted commissionaire bulks larger/			A1a							
Than the massive magnate at the turn of the stairs/			A4a							
bulks larger/ Than the massive magnate									A2b	
Than the massive magnate	A2b				A2b				A4c	
at the turn of the stairs/	A4c				A4c					
While the coffin entering by the west door/					A1c					
far up stage/ The kings go			A1c							
towering into the flies;//			A4c							
Of the year Two Thousand				A2c						
straddles the world/				A4c						
To match the child				A1a						
To match the child that was once yourself./					A1a					
The further-off people					A4a					
are sometimes					A1a					
Similarities including A1b, A2b and A2c tunes.										
The further-off people	A1b				A2b					
are the smaller.	A3				A2c					
Homeric heroes					A2a					
and suffering Bantu/					A2c					
Or the dentist breathing fire							A2a			
breathing fire				A2c						
on one's uvula.//				A2a			A2c			
So the stunted commissionnaire	A1c				A2b				A1c	
bulks larger/	A2c				A2c					
Than the massive magnate	A2b				A2b					
bulks larger/ Than the massive magnate									A2b	
While the coffin entering by the west door/					A1c					
entering by the west door/		A1c					A1c	A1c		
Screens the chancel		A2c			A2b		A2b	A2b		
and dwarfs the altar.//		A2a			A2b		A2c	A2b		
The weak eye zooms,					A1c		A1a			
the distant midget/					A2b		A2b			
Expands to meet it,							A1c			
far up stage/ The kings go towering					A2b					
into the flies;//					A2a					
And down at the end of a queue				A1c						
some infant/ Of the year Two Thousand			A2b				A2b			
Of the year Two Thousand				A2c						
straddles the world/			A1c			A1c	A1a			
To match the child						A2c				
that was once yourself./						A1c				
The further-off people										A2b
are sometimes the larger.										A1c

Table 17 - MacNeice: similarities (cont.)

Reader:	10	11	12	13	14	15	16	17	18	19
Text										
Similarities including D tunes.										
The further-off people are the smaller.						A1c				
are nothing				A3						
in size to the tax-collector/				D2a						
So the stunted commissionaire						A1a				
bulks larger/						D2b		A3		A3
Than the massive magnate								D2b		D2a
at the turn of the stairs/										A1c
the distant midget/ Expands to meet it,										A1c
far up stage/										D2b
The kings go towering into the flies;//										A1c
far up stage/ The kings						D1				
go towering						A3				
some infant/									A3	
Of the year Two Thousand									D2b	
straddles the world/									A1c	
The further-off people are sometimes the larger.						D1				

In this chapter, then, we are concerned with the precise physical form of pitch patterns more than we are directly with the ways they map onto the texts (though this is mentioned when necessary) which as I observed in 16.2.2 are substantially the same as for echoes. Because of the bias of this chapter I treat the recitations of both texts in a single discussion. I discuss similarities between tune types in descending order of resemblance: section 17.1 deals with the closest similarities, those whose resemblance is represented in the classification notation by their being placed in the same category at the first, numerical, level of subdivision; section 17.2 deals with similarities between tune types of the same main class (and so binary coding) but different subdivisions; section 17.3 deals with similarities between tunes in different main classes but with some shared binary coding feature or features.

Similarities in the Keats data are shown in table 16, and similarities in the MacNeice data in table 17. As in tables 14 and 15 (see 16.1) each column is devoted to one reader and each tune shown is associated with the segment of text opposite it. The tables are divided into sections according to the tune types forming the similarities, and in all cases the tunes forming each similarity are vertically either adjacent or in close proximity in the tables.

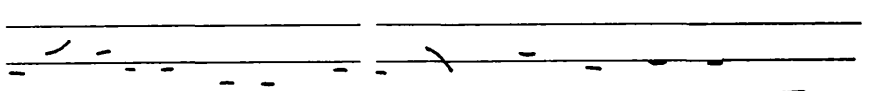
17.1 Similarities between tunes within numerical subdivisions

By definition tune types which are not identical but which are classified the same down to the first, numerical, level of subdivision not only share the same basic features but also share some aspect of the way those features are realised, which tunes classified with the same main class letter (i.e. the same basic features and so the same

binary coding) but no common subdivision do not share (see 15.2.2). For example the three most common tune types, A1a, A1c and A2a have in common the fact that pitch falls from high to low somewhere and somehow within them (the definition of an A tune), but A1a and A1c tunes also share the feature that the fall occurs gradually throughout the length of the contour - the definition of A1; in A2 tunes the fall does not occur until the end of the contour, and when it does so it does so abruptly (see 15.2.2.1). Similarities within numerical subdivisions are therefore the closest ones.

17.1.1 A1a and A1c

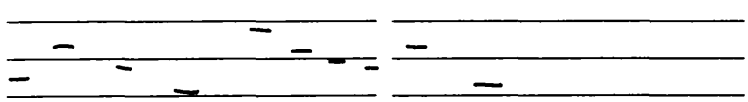
The ground of similarity between these two tune types is that the fall from high to low pitch which occurs within them occurs gradually throughout the length of the contour. The difference between them is that in an A1a tune this gradual downward progression of pitch is realised as a series of downsteps (possibly interspersed with periods of level pitch), while in an A1c tune the downward progression is checked by one or more resets of pitch which form local peaks, although they are not usually as high as the peak of the onset. This sequence of A1a + A1c is made by Reader 1:



I look into the chasms, | and a shroud/ Vaporous doth hide them

Both tunes as we can see fall gradually from high to low pitch, the general downward trend occurring throughout their length. This resemblance is offset, but not destroyed, by the resets in the second tune on *Va-* and *doth*. The similarity between the tunes marks the co-ordination of the two main clauses.

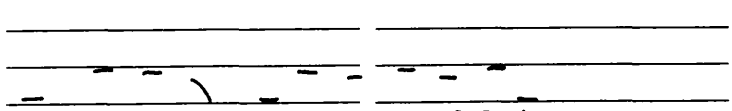
As we have seen, however, (15.3.1) there is a variant of the A1c tune, which occurs especially in the Keats data, which has only one reset, at the end; the gradual fall in pitch is unchecked until there occurs a final reset and abrupt fall. This variant is closer to the typical A1a than is an A1c tune with two or more resets occurring in the middle of the contour. A similarity between an A1a and an A1c which has only a final reset comes closer to being an echo than does a similarity between these types where the A1c has more than one reset mid-contour, since the unchecked downward progression of pitch, which an A1c with only a final reset has before its final reset and fall, is a feature which an A1a has throughout its length. Observe the close similarity between the tunes in this sequence of A1a and A1c:



Is mist and crag, | not only on this height,/ R7

17.1.2 A2a and A2b

The ground of similarity between these two tune types is the sharp end fall that both contain - and which is the definition of an A2 tune. For example Reader 5 has:



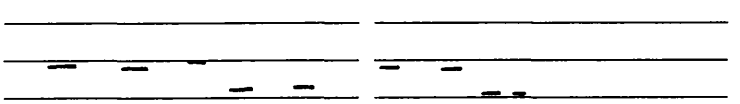
and speak it loud/ | Upon the top of Nevis

An A2a is immediately followed by an A2b; the main ground of the similarity is the end falls, which both tunes possess, down to, or very near, the speaker's baseline. The distance between the peaks and troughs of the oscillations in pitch which occur in the

A2b before the final fall is relatively small; and since each upward jump is countered by a downward one the *general trend* of pitch throughout these oscillations is level; the depth of the final fall, by contrast, is greater and more striking.

17.1.3 A2a and A2c

These two tune types have a greater similarity than do A2a and A2b: the only difference between them is that an A2c has a jump up in pitch to the initiation point of the final fall which an A2a does not have. Apart from this they both consist of a high level head and final fall. Now since its onset is high, the scope in an A2c for a further jump up before the final fall, though it exists, is limited. The similarity between A2a and A2c tunes is therefore by definition a near-echo. The closeness is clear in the following, from Reader 11:

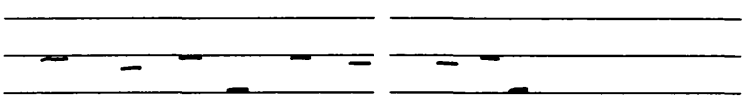


Screens the chancel | and dwarfs the altar

Here an A2c tune is followed by an A2a. There is a slight jump up from the level of pitch maintained on *Screens the* to the initiation point of the fall on *chancel.* There is no such jump up in the second tune: there is simply a drop from the pitch maintained on *dwarfs the* down to the baseline on *altar.* Despite this slight variation, however, the two tunes are still very similar, both having level pitch and an end fall from it. Each tune maps onto one of the two coordinated predicates of the same subject; the close grammatical parallelism is marked out by this near-echo.

17.1.4 A2b and A2c

The closeness of A2c to A2a (see 15.2.2.1) means that the ground of similarity between A2b and A2c is virtually the same as that between A2b and A2a described above, consisting in the end falls and the high level general trend of pitch before them. For example:



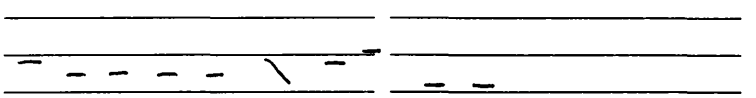
Screens the chancel | and dwarfs the altar. R16

Here we have an A2b followed by an A2c. In this pairing, however, the final jump up in pitch in the A2c tune to the initiation point of the final fall also mimics one of the upward oscillatory pitch movements of the A2b tune, so that the similarity is somewhat closer than is the case between A2b and A2a tunes. (This is a somewhat untypical example of an A2b: it is short and therefore has few of the oscillations which are the chief characteristic of this tune type; consequently the resemblance to the A2c with its final reset is closer here than would be so of a more prototypical A2b and an A2c.)

17.1.5 A4a and A4c

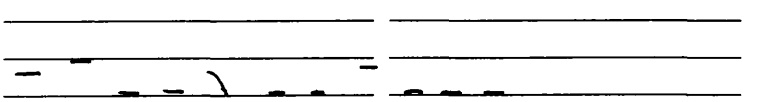
The ground of similarity here is that both A4a and A4c tunes have an early fall from high to low followed by low level pitch throughout most of the remainder of the tune's length. For A4a this low level pitch in fact persists for the entire remainder; an A4c has a final reset and a second fall. Like A2a and A2c, these two tune types are thus

identical except for the difference of presence versus absence of a final reset and fall, although the fact that the essence of an A4 tune is the early fall to low pitch means that the final reset of an A4c tune usually covers a wider pitch range than that of an A2c, which does not have such a low base to reset from. In practice similarities between A4a and A4c tunes are rare in the data: there is just one in each poem. In the Keats Reader 8 follows an A4c with an A4a in this sequence of premodification and matrix in a noun clause:



that, a poor witless elf,/ | I tread on them,

In the MacNeice Reader 15 follows an A4c with an A4a, linking the two parts of the comparison:



Are nothing in size | to the tax-collector

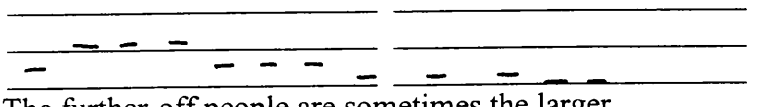
17.2 Similarities across numerical subdivisions

The similarities between the tunes in the examples discussed in the previous section are ones which are implied by the classification scheme: the tunes have the same numerical subdivision. But strong similarities between tunes are not confined to tunes where this is so. Individual features which tunes happen to share can give two tunes a noticeable similarity - they 'chime' well - even if, on other grounds, the tunes concerned are classified under different numerical subdivisions. The similarity in

these cases would normally be less than that between tunes with the same numerical subdivision; the tunes merely share one or more basic features (i.e. those annotated by main class letters and the binary codings). However, in particular examples of similarity between tunes which do not share a numerical subdivision, the tune types involved can be instantiated by exemplars that are relatively close to each other, although there are clear grounds in general for classifying the tune *types* as different. In some cases peripheral instances of different categories can be sufficiently close to each other to be near-echoes; they are closer to each other than either is to the central members of its own category. Although the two tunes are members of different categories these exemplars of them are very close together, while remaining on opposite sides of the boundary between the categories. They remain, as it were, pressing against opposite sides of a glass partition but unable to touch. In this section I examine the forms taken by similarities between pairs of A tunes with different numerical subdivisions.

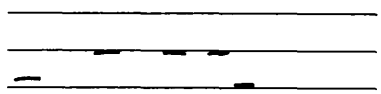
17.2.1 A1a tunes and tunes with abrupt falls

An A1a tune is a fall from high to low pitch realised by a series of gradual downsteps spread over several syllables. This is some way removed from a fall realised by a single sharp jump down or downglide. Compare, for example, this A1a tune made by Reader 11:



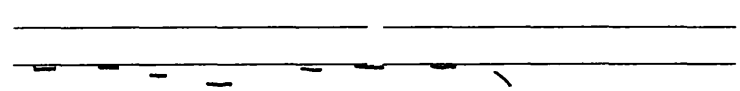
The further-off people are sometimes the larger.

with this A2a tune made by Reader 15:



and dwarfs the altar.

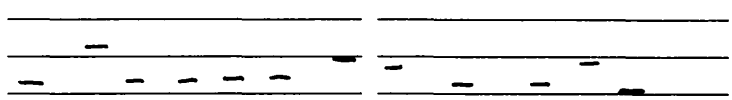
However, some less typical examples of the A1a tune can have a surprisingly close affinity with tunes with abrupt falls. The essence of an A1a is a gradual downward progression of pitch; the prototypical A1a (such as Reader 11's example above) consists of a series of small downsteps. However, a relatively short A1a tune is unlikely to conform to this prototype since the downsteps are likely to be larger than they would be in a longer tune: the principle of gradualness is maintained in that the downward progression is fairly evenly distributed over the syllables which carry the tune, but since there are fewer of these syllables the average size of the downsteps is correspondingly larger if both short and long tunes have a constant distance from peak to trough (see 15.3.1). While in theory (which is to say thinking only of the tunes' prototypes) A1a tunes differ in the nature of their fall from the typical abrupt-fall tunes, A2, A3 and A4, there can be congruence between the abrupt fall which these three types all possess and a relatively large downstep in an A1a. For example Reader 16 has the following sequence of A1a and A2a:



straddles the world/ | To match the child

The pitch range of both tunes is the same. The downward progression of the A1a is accomplished by downsteps to two syllables, *the* and *world*. The A2a has a single end fall on *child*. But the similarity between the tunes is relatively close because, although

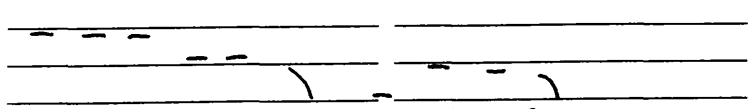
the fall of the A1a is undertaken in stages, they are large stages: there is a lot of downward movement in a short space, as there is in the abrupt fall on *child*. This principle can also operate to create a close similarity between A1a tunes and the other types with abrupt falls, A3 and A4. Reader 14 has the following sequence of three tunes in the last line of the poem:



The further-off people | are sometimes | the larger

The sequence of tunes is A4a + A1a + A3. There is an obvious affinity between the first and third tunes: the first has a single fall from *fur-* following which pitch remains low and level; the third tune simply has the fall. The middle, A1a, tune has a fall in two stages from the peak of the onset on *are*. It is the fact that the fall takes place in stages which causes the tune to be classified as A1a. But because the tune lasts for only three syllables the downsteps have to be fairly steep; this and the fact that they are consecutive gives them, taken together, some of the character of a single abrupt fall. This means that a well-defined recurring pattern is formed by the three tunes of the sequence.

Another context in which there can be a close similarity between A1a and A2a tunes is when the gradual downstepping fall of the A1a is not realised by a downstep on every syllable, but pitch remains level across one or more syllables. For example Reader 5 has a sequence of A1a and A2a thus:



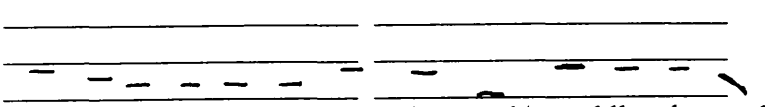
Here are the craggy stones | beneath my feet.

In the A1a tune there is a downstep to *crag-* and a slight downstep to, then a downglide on, *stones*. But on the three syllables *Here are the*, and the two syllables of *craggy* pitch is level. This means that the second half of the tune, *craggy stones*, consists high level pitch and an abrupt end fall - in fact the description of a prototypical A2a tune. There is indeed a resemblance between the latter portion of the A1a tune here and the A2a which follows it. This resemblance is the more marked as the A2a tune has the same pitch range as the final fall of the A1a. (It is also sometimes the case that an A1a may be a concatenation of shorter contours; a level + fall section of an A1a may then be the incorporation of an A2a: see 20.1.)

17.2.2 A1c tunes and A2 tunes

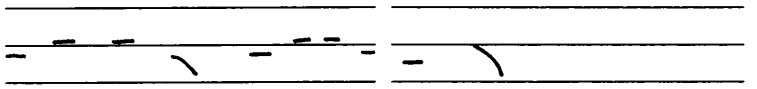
17.2.2.1 A1c and A2a

The A1c tune very often has one or more abrupt falls even though it need not (so that we cannot treat abrupt falls as part of the definition of A1c). Because this tune's general downward trend in pitch is arrested by resets, some sharp falls may well be necessary in practice if pitch is to reach its low end point within the compass of the tune. In particular, many A1c tunes have a steep end-fall following a late last reset. Such instantiations of the A1c tune have a relatively close similarity to A2a tunes, the ground of the similarity being the steep end-fall. For example in Reader 10's



some infant/ Of the year Two Thousand | straddles the world

we have an A1c tune followed by an A2a. The two tunes differ in that the first begins to fall immediately then resets on *Two* and has an end fall from *Thou-*, while the second remains high until the final fall on *world.* Yet the fact that both have abrupt and relatively wide falls at the end gives the two tunes a strong similarity despite their difference. The similarity works well to bind the subject and predicate of this clause together. Another feature of this example is shown even more clearly by Reader 8's



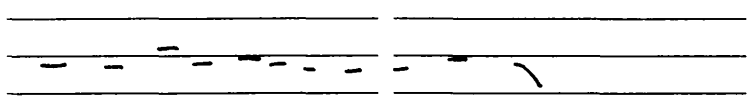
Is mist and crag, | not only on this height,/

Here we have an A2a followed by an A1c. The latter has as the only pitch reset checking the downward progression of pitch the reset to the initiation point of the final downglide on *height.* This is a ground of the similarity between this tune and the preceding A2a, with its final downglide on *crag.* But the fact that the upstep from *this* to *height* is the A1c tune's only reset also means that in fact the only difference between the two tunes lies in the slope of what precedes the end-fall in each case: level in the A2a and downward in the A1c. There are not, as there are in many other A1c tunes, several up and down movements as a result of there being more than one reset. The use of a close similarity here has little syntactic logic, but does bring together the entire contents of a single line; the poetic form provides the cue.

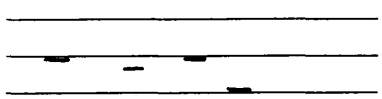
17.2.2.2 A1c and A2b

The ground of similarity between A1c and A2b tunes can be the presence in the A1c of a wide end-fall, as for that between A1c and A2a. However another ground,

peculiar to similarity between A1c and A2b tunes, is that the rocking pattern of alternating up- and downsteps which characterises an A2b bears some resemblance to the downward trend of pitch checked by resets which characterises an A1c. In this example in which Reader 14 follows an A1c by an A2b:



While the coffin entering by the west door/ |

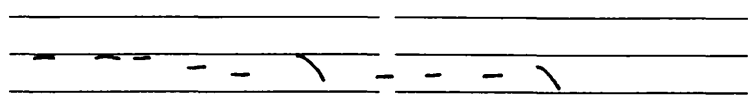


Screens the chancel

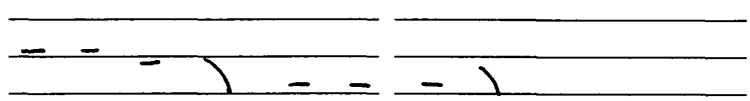
Both tunes have upward movements alternating with downward movements; the difference is that the A2b has these alternating pitch movements in a somewhat stereotypical form - the impression created is that alternation itself is the essence of the pattern - whereas the A1c has more sustained periods of downward movement, checked by isolated upsteps on *ent-* and *west*. For this ground of similarity to hold good it is necessary that the A1c has more than one reset, to provide alternation between upward and downward movement. Despite the similarity, however, the two tunes are clearly different: in the A1c the contour as a whole has a downward slope; its resets do not restore pitch to the height of the onset.

17.2.2.3 A1c and A2c

The ground of similarity between these two tune types is once again an end-fall, and also the reset to the initiation point of the end fall in each case:



Here are the craggy stones | beneath my feet - R1



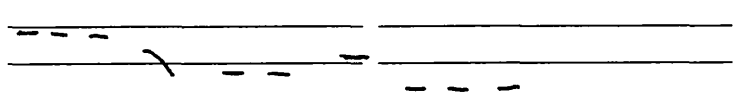
straddles the world/ | To match the child R15

Here we have two examples of an A1c followed by an A2c. In these and all other examples of this pairing, the A1c tune is the variant which has only one reset, at the end. Here, then, is a case where peripheral examples of different tune types may be marginal in terms of their respective categories but are close to each other.

17.2.3 A4 tunes and other A tunes with abrupt falls

17.2.3.1 A4a and A2a

A4 tunes easily form close similarities with other tunes with abrupt falls. For example here is an A2a tune followed by an A4a, produced by Reader 1:



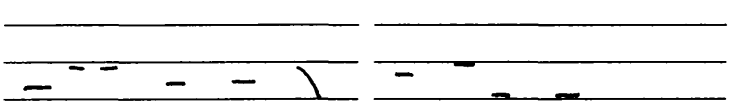
Even so vague | is man's sight of himself

The end fall on *vague* in the A2a tune is parallelled by the fall from *sight* in the following A4a. The falls echo each other, even though the first occurs late in its contour and the second early in its contour. (The distinction between late fall and early fall is in principle one of degree in any case: see the section on A4 tunes in

15.3.1.) The similarity between the tunes, consisting in the falls, binds the subject and predicate of the clause together. Since the A4a tune follows the A2a the late fall of the A2a is followed fairly soon by the early fall of the A4a: not only are the tunes themselves close in form, but the elements of them on which the similarity between them rests are physically close together.

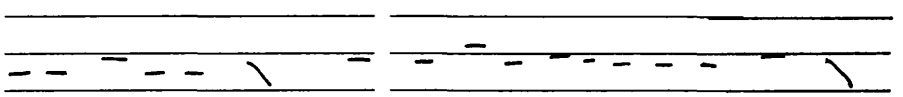
17.2.3.2 A4 tunes and A1c

This effect can also produce a similarity between an A1c and an A4 tune. In the sequence of A1c and A4a in Reader 2's



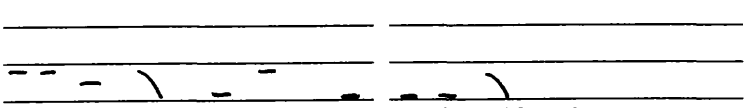
The first tune begins a gradual downward progression from *the* then resets to the initiation point of the steep down-glide on *thought*; the second has a sharp fall almost immediately, from its peak on *men-*, then remains low. Once again it is the common feature of the sharp fall which binds the two tunes together, and allows the second tune to function well as an exponent of the extension *and mental might*: its fall reduplicates the fall on *thought*. This partial recurrence of the first contour is congruent with the addition of extra material to the grammatical construction. The A1c, however, although it is its sharp final fall which is the ground of similarity here, still has a gradual downward progression of pitch preceding the reset to the initiation point of the final fall; it is still definitely classifiable as an A1c and could in principle, on the ground of its gradual downward trend, form a similarity with an A1a tune.

The preceding example was of a similarity between an A1c and an A4a. But A1c tunes have a closer similarity to A4c tunes, because the ground of similarity not only may include abrupt end-falls, if an A1c happens to possess one, but necessarily includes pitch resets: this is the implication of A1c and A4c tunes' both having the 'c' alphabetic subdivision, which is (see 15.2.2) a systematic mnemonic denoting the possession of one or more pitch resets. In Reader 14's



at the turn of the stairs/ | While the coffin entering by the west door

we have an A4c followed by an A1c. Apart from the pitch resets which both tunes have on their onsets (*turn* and *coff-* respectively), the A4c tune has a reset to the initiation point of the final fall on *stairs*; the A1c tune has resets on *ent-* and *west*. The ground of similarity here, then, is that both make repeated upward leaps to give pitch prominence to individual syllables. Where an A1c is paired with an A4c and the A1c has, apart from the onset, a pitch reset only to the initiation point of a final fall the similarity between these two tune types is closer still:



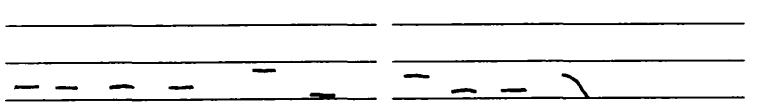
Even so vague | is man's sight of himself. R8

Here we have an A1c followed by an A4c. The grounds of similarity are the usual ones for this pairing of tune types: both contain abrupt falls, the A1c on *vague*, and the A4c from *man's* and on *-self*; and both contain intermediate pitch resets, to the initiation points of the falls on *vague* and *-self*. But a further ground is that, because

the reset to *vague* is the only reset that this A1c tune has, the two tunes have the same general shape: a high onset followed by some lowering of pitch, then a reset and abrupt fall at the end of the contour. The difference between them is that in the A4c pitch drops very low immediately after the onset and remains so for an appreciable time - for the duration of three syllables - until the final reset; whereas in the A1c pitch does not start to fall until *so* and then does not fall far before the final reset - the progress from high to low in the A1c tune as a whole is the gradual one that is part of this tune type's definition. This A1c is, however, untypical in having (because of its shortness) only one downstep between the onset and a final reset: it is a marginal example which, within the category of A1c tunes, lies somewhere close to the boundary with A4c.

17.2.3.3 A4c and A2c

The similarity between A4c and A2c is a variation of that between A4c and A1c:



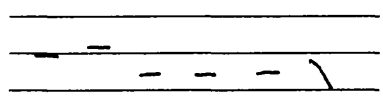
Of the year Two Thousand | straddles the world R13

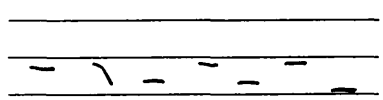
Here an A2c is followed by an A4c. Both tunes have final resets followed by wide end-falls, on *Thousand* and *world* respectively. There is also the congruence of the end fall of the A1c on *Thousand* and the early fall of the A4c on *straddles*, a congruence which is made clearer by the falls' physical proximity. There is the further ground of similarity between these two tunes that pitch remains level through the middle of both tunes, between onset and final reset. The difference between them is

simply that the A2c lacks the early drop in pitch that the A4c has. In a similarity between an A4c and an A1c the reverse situation holds: it is a ground of the similarity that in both pitch begins to drop immediately after the onset, and a difference between them that in an A4c tune pitch remains level through the middle of the contour while in an A1c it slopes downwards.

17.2.3.4 A4c and A2b

A similarity between A4c and A2b tunes has as its ground that both that both tune types alternate between high and low pitch:

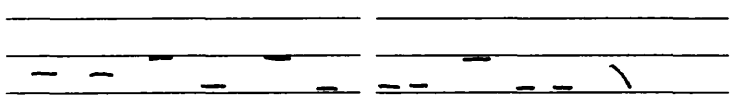

Mankind do know of Hell. |


Mankind can tell of Heaven. R6

The first, A4c, tune here drops from high to low after *-kind*, has a small reset at the beginning of *Hell* then a downglide on that word to the speaker's baseline. The A2b tune has a step up or down on almost every syllable. In both cases movements up or down alternate; in neither tune does more than one upward or more than one downward movement occur consecutively. This gives the tunes a close affinity, so that they mark the syntactic and semantic parallelism between the textual segments which carry them. Nonetheless it is clear that they are different tune types, and that the affinity is one of similarity and not of echo: the A4c tune sustains low level pitch through the middle of the contour, on the words *do know of*, while the A2b moves

constantly from high to low and back again. That there is difference as well as resemblance between pitch patterns here is congruent with the structure of the textual parallelism: these two clauses have a similar grammatical and semantic structure, but also the contrast between *Hell* and *Heaven* and between the choice of verbs, *do know* and *can tell* (though these are similar in meaning).

Where, in a case of similarity between A4c and A2b tunes, the A4c is a more marginal example of that tune type the similarity is greater. Readers 10, 14 and 18 all have the same example of an A2b followed by an A4c. Reader 10 may stand as the exemplar:

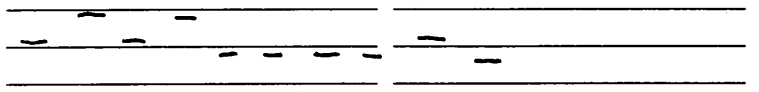

Than the massive magnate | at the turn of the stairs

The only difference between these two tunes is that after its first drop in pitch, from *mass-*, the A2b tune rises immediately to *mag-*. The A4c remains low for two syllables after its fall from *turn*. The impression left by the two tunes together is one of alternating pitch throughout the sequence. In fact the likelihood is that the only reason these segments of text are rendered with different tune types at all is that the words *massive magnate* alternate between lexically stressed and unstressed syllables. Since all three readers who have this pattern accent the stressed syllables they naturally go from peak to trough and back again in order to make the accents. By contrast the two syllables following *turn* are both unaccented, and so both naturally remain low in pitch; the next peak is on the next accent, on *stairs*. Yet the difference between the two tunes, when they are viewed simply as concatenations of pitch

movements, means that their classification as different tune types must stand despite their near identity. (If the unstressed syllable of *massive* were the same pitch as the stressed one the tune would be A2a: the classification of the tune as A2 despite its closeness to an A4 tune is certainly no distortion.)

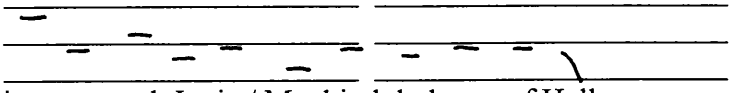
17.2.4 A1b and A2b tunes

A1b is a rare tune type: there is just one in the data for each poem, one made by Reader 2 in the Keats data and one made by Reader 10 in the MacNeice. The latter example begins the poem, encompassing the noun phrase subject of the poem's first sentence; the far shorter predicate is given an A3:

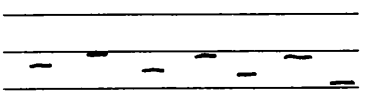


The further-off people | are the smaller.

In the case of Reader 2's Keats example, however, it is surely not accidental that her A1b tune forms a similarity with an A2b:



just so much I wist/ Mankind do know of Hell.



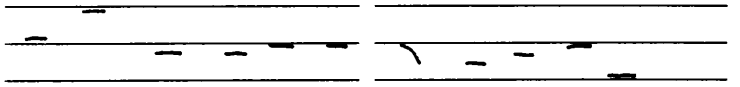
Mankind can tell of Heaven.

Here the rocking pattern shared by both tunes creates a strong similarity between them. The difference, as with one kind of resemblance between A1c and A2a tunes

discussed earlier (17.2.2.1), is simply in the slope of that part of the two tunes which precedes the final fall. The first, A1b, tune has a gradual downward progression (indicated by its numerical subdivision), in that the topline and baseline of the tune slope gently downwards; each successive peak and each successive trough is lower than its predecessor. The A2b tune has level topline and baseline until the final fall; each successive peak and each successive trough is on the same level as its predecessor. Thus the rocking pattern itself points up the similarities of syntax and semantics between the - discontinuous - textual segments, while the different slope of the two pitch contours is congruent with the semantic contrast between *Hell* and *Heaven*.

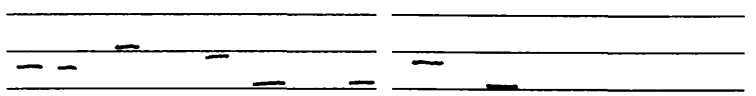
17.2.5 A3 and other A tunes

The A3 tune, which consists only of an abrupt fall, naturally coheres well with any other tune having an abrupt fall:



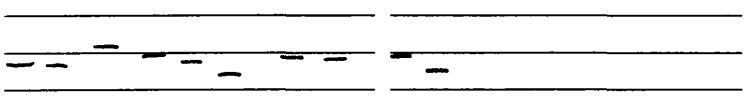
Yet sometimes | for all these rules | of perspective R19

Here we have an A2a flanked on both sides by A3's. Yet all three tunes have a high onset and an abrupt end fall. The parts of these adverbials are bound together by the similarity. An A3 can also form a close similarity with an A1a which is short and therefore has relatively wide downsteps (see 15.2.2.1):



and a shroud/ Vaporous | doth hide them; R3

The depth of the final downstep of the A1a tune, on *Vaporous* is virtually identical to that of the fall in the A3, from *hide*; the ground of the similarity is therefore strong. In this case a marginal example of an A1a is well-suited to forming a similarity with an A3. In the following, the principle works in reverse: the particular example of an A3 is well-adapted to a more prototypical A1a:



to the tax-collector/ | Or the dentist R18

The first, A1a tune, accomplishes its gradual fall from high to low pitch in three successive short downsteps. The A3 which follows has only one downstep, on *dentist*, but this has a fairly narrow compass, and resembles one of the single downsteps in the A1a tune; this is the ground of the similarity, which draws together the two things with which a comparison is being made: *Are nothing in size to the tax-collector/ Or the dentist...*

The fact that A3 is a contextual variant of the A tune which is used for short segments of text, where no more than a simple fall, and perhaps a prehead, can be fitted in, means that similarities between A3 tunes and other tune types are similarities which could have been echoes had the textual segment rendered with an A3 tune been long enough to permit the use of another A tune type; the type selected could then have been that with which the A3 tune in fact forms a similarity. Thus, except in

contexts where they can form echoes with other A3 tunes, the similarity is for A3 tunes ubiquitous as a means of marking relationships between textual segments. Moreover, the shortness of A3 tunes means that their falls in pitch will always be in close proximity to a late fall in an immediately preceding tune or an early fall in an immediately following tune, with the result that the ground of the similarity is made the more salient in such cases, and the similarity comes close to being an echo.

17.3 Similarities across main categories

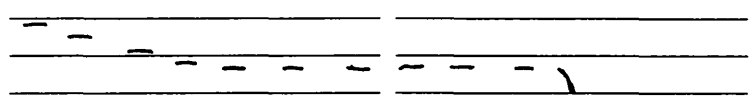
These are similarities between tune types which differ at the first level of classification. They differ in the combination of fundamental features they possess, and consequently have different initial letters and different binary codings. Nonetheless, though they may have different *arrays* of fundamental classificatory features those arrays may include some of the same features, so that similarity between them is possible. In this section I deal with similarities between D and A tunes, and between F and A tunes.

17.3.1 D tunes and A tunes

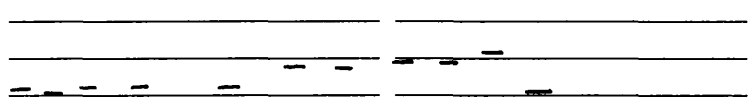
The essential difference between D tunes and A tunes is that, while both types end with a fall of some kind, D tunes have, and A tunes do not, an initial rise from the onset. In D1 tunes this rise is gradual, and in D2 tunes it takes the form of an abrupt upward leap.

17.3.1.1 D1 tunes and A tunes

When D1 tunes form similarities with A tunes the effect usually is to point up a contrast between textual segments which are also linked in some way. Reader 7, for example, has the following similarity between an A1a and a D1 tune:



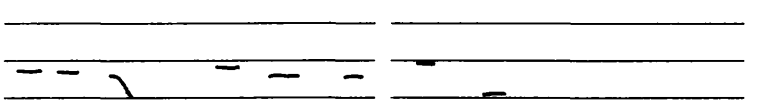
just so much I wist/ Mankind do know of Hell.



even so much/ Mankind can tell of Heaven.

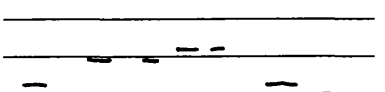
Both tune types by definition end with falls. In this case, moreover, the A1a tune ends the gradual fall which takes place throughout its length with a final downglide on *Hell*, which strongly resembles the final fall of the D1 on *Heaven*. This, then, is the ground of the similarity. Yet for most of its length the A1a tune is falling, and for most of *its* length the D1 is rising; their gradients are opposed in direction; the contrast between them is very clear. In effect the prosodic contrast between the tunes anticipates, rather than directly marks, the main verbal contrast, that between *Hell* and *Heaven*, on which pitch behaves nearly identically. This may be the intention, since the peak of pitch in the A1a tune is on the onset, on *just*, whereas the peak in the D1 is the initiation point of the fall on *Heaven*. The pitch reset which would normally occur on the onset is delayed until the peak on *Heaven*. It is perhaps the delayed reset which is the real marker of contrast; the gradual rise in pitch is simply a way of ensuring that the peak of pitch prominence is delayed until the crucial syllable even though there are a large number of syllables to articulate before it is arrived at.

This device is also used by other readers. As we saw in 16.1.5, Reader 3 contrasts an A1c on *Mankind do know of Hell* with an echo of D1 tunes on *Mankind can tell of Heaven* and *is man's sight of himself.* Reader 5 uses an A3 followed by an A1c to render:



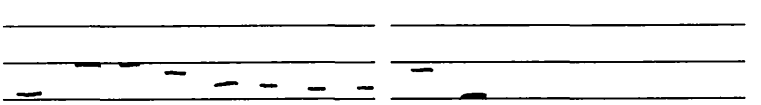
and a shroud/ | Vaporous doth hide them;

then a D1 for the elegant variation:

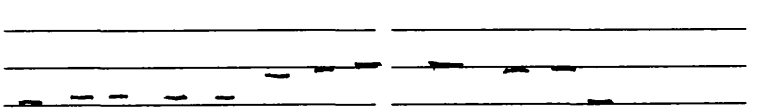


And there is sullen mist;

In the MacNeice data Reader 15 uses an A1c and a D1 to render the first and last sentences of the poem respectively, the sentences which summarise the paradox on which the poem turns:



The further-off people are the smaller.



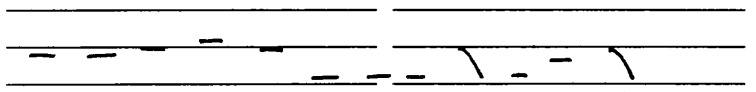
The further-off people are sometimes the larger.

Here the delayed reset on *larger* points up the contrast between being *larger* and *smaller* as qualities which, paradoxically, are both ones that *The further-off people* can

have; the delayed reset is anticipated by the steadily rising gradient of the D1 contour, which contrasts with the steadily falling contour of the A1c.

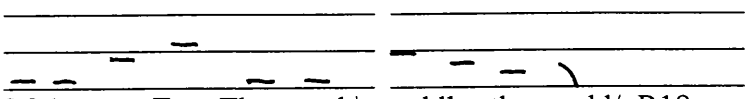
17.3.1.2 D2 tunes and A tunes

The upward leap from the low onset that manifests the initial rise of D2 tunes is necessarily of shorter duration than the gradual rise of D1 tunes. This being so the initial rise is a less salient part of the pattern of D2 tunes than of D1 tunes. Since it is the initial rise that differentiates D tunes from A tunes, it follows that D2 tunes are closer in form to A tunes than are D1 tunes. And indeed similarities between D2 and A tunes are usually close. Here is an example of a D2a followed by an A1c:



Than the massive magnate | at the turn of the stairs/ R19

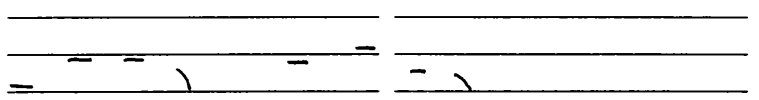
There is an upward jump from the onset of the D2a, on *mass-*, but this does not provide a strong contrast with the A1c, as would a gradual rise through several syllables, taking up most of the contour; on the other hand the fall from the peak on the unstressed syllable of *massive* and through *magnate* does constitute a strong ground of similarity with the falls in the A1c tune, on *turn* and *stairs*. In the following a D2b is followed by an A1c:



Of the year Two Thousand | straddles the world/ R18

The sharp fall from *Two* to *Thou-* chimes with the gradual fall through the A1c tune - they are within a very similar pitch range; the jump up from the onset of the D2b, from *year* to *Two*, on the other hand, is a lesser feature of its contour.

Where a D2 tune forms a similarity with an A tune and the A tune has a low prehead, the jump up from the low onset of the D2 is a ground of similarity, and not a contrasting feature; the similarity can come close to being an echo. In the following, there is a sequence of A2a and D2a:



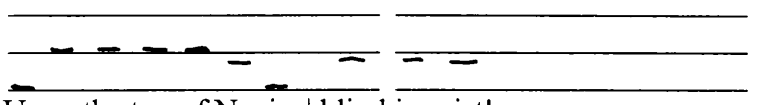
beneath my feet -/ | Thus much I know, R5

Both tunes end in falls of course; but as well as this the jump up from the low onset on *Thus* in the D2a is parallelled by the jump up in the A2a from the prehead on *be-* to the high onset on *-neath*; the similarity is in terms of pitch movements very close indeed.

17.3.2 F tunes and A tunes

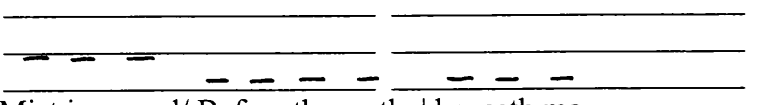
F tunes are contours which remain at the same level of pitch throughout their length: they have none of the three classificatory features of the first level of classification, initial rise, fall or final rise. Since A tunes by definition contain a fall from high to low pitch they have in theory nothing in common with F tunes. But in practice this does not mean that the two tune types cannot form similarities. Because F tunes remain level throughout their length they can be, and occasionally are, used by readers

to pair either with tunes ending in a fall or those ending in a rise, in a sort of similarity-substitute. (Cf. the relative nearness of level nuclei to both falls and rises, compared with the opposition between falls and rises, in Betjeman's reading of *Eunice*, discussed in 14.1.1.) For example Reader 2 has the following sequence of an A2a followed by an F tune:



Upon the top of Nevis, | blind in mist!

The final fall of the A2a tune reaches the speaker's baseline; in prosodic terms there is no sense of incompleteness about the contour. In this context a contour which is level throughout also sounds complete in itself; this minimal compatibility between these pitch patterns is sufficient to allow them to coexist in a relationship which approximates to the one enjoyed by tunes which really are similar. Reader 9 also has a combination of A2a and F tunes here, but his A2a begins at the beginning of the clause and takes in all of *and speak it loud/ Upon the top of Nevis*. It is also Reader 9 who shows another, more direct, way in which A and F tunes may combine in something approaching similarity. He has a sequence of an A4a followed by an F tune:



Mist is spread/ Before the earth, | beneath me -

The low level pitch which is maintained following the fall (a step-down from *spread*) of the A4a tune is the ground of similarity with the wholly low level F tune which follows. F tunes which combine with rises are dealt with in chapter 18.

17.4 Conclusion

This survey of similarities has looked at the resemblances and differences between all the physically different pitch patterns in the data. This is a necessary first step if the pitch patterns used in verse recitation are to be characterised and quantified. But is there really as large a number of distinctive patterns as there is of physically different patterns, which is what the classification system as we have it implies? Contemplating the close resemblances between some contours, and the sheer number of different contours, brings the thought that physical variation may not always be a token of distinctively different patterns. This seems likely also because the contexts in which similarities occur do not seem to be different from those in which echoes occur. The problem is to distinguish between pitch patterns which, though similar, are of distinctively different types; those which have the same underlying pattern but whose physical difference is a random variation, for example where one contour has a single slightly depressed (in pitch height) syllable which the other does not; and those which are of the same underlying pattern but whose physical difference is a function of the different textual strings and consequent differences of length and accentual pattern (for example) that they must map onto. To establish an inventory of *distinctive* pitch patterns and their variants, and to identify how other prosodic features affect which precise variants are used, are tasks for the future now that we have some idea of what the physical variations are. In chapter 20 I point towards the sort of model we might adopt, suggesting that the pitch patterns of recited verse may consist of a very few

basic contours and a set of processes that can modify those contours to produce the patterns of the recitational surface.

Meanwhile, in the next chapter, I turn to the examination of end-rising tunes, which we have not so far looked at in detail, and in particular the use made by the readers of the contrast between end-rising and end-falling tunes.

Chapter 18

Pitch patterns in the recitations (3):

the completive sequence

This chapter deals with the use made by readers of B, C and E tunes. These have in common that they are all composed of contours with a final rise in pitch (see 15.2.1). This final rise characterises them as clearly different from the A tunes which constitute the vast majority of pitch patterns, whose essential characteristic is a fall from high to low pitch which constitutes the essence of the pattern; in an A tune this fall, whatever form it takes, ends the contour. Tune types which end in a final rise can therefore be used to contrast with A tunes, especially since A tunes constitute the great majority: end-rising tunes are therefore foregrounded by their rarity. They are in fact used to contrast with them for one notable purpose.

This is as a cohesive device for linking together successive segments of text by using an end-rising tune for the first and an end-falling tune for the second, the rise indicating initiation of a sequence and the fall its completion. The phenomenon is well-documented in the literature. Cruttenden (1981:81) lists 'finality' as one of the core meanings for falling tone, and 'continuity' as one of the core meanings for rising tone. For example, of the pair

(5) (a) I went to the↗station/ and caught the↘train.
(b) I went to the↘station/ and caught the↘train.

Cruttenden comments:

> '(5a) is the more usual pattern of pair (5). The first of two co-ordinate clauses typically has some sort of rising pattern. The use of a rising tune here appears to be associated with CONTINUITY - that there is more to come... The use of a fall on the first clause is atypical... It gives the impression of FINALITY and there thus appears to be a misfit between intonational independence and the clause-linking *and* which follows.' (pp. 79-80)

Fox (1984) divides nuclear tones into those which terminate high, such as rises, and those which terminate low, such as falls, and regards the sequence high + low as being a *subordinating* sequence, with the high tone subordinate to the low, as in:

> when I get ˊback/ I'll give you a ˋring
>
> (1984:123)

This subordination has, Fox says, nothing to do with the fact that *when I get back* is a subordinate clause in syntactic terms; the relationship between the tones is purely intonational, and would remain the same if the order of the clauses were reversed but the order of the tones remained rise followed by fall (so that *ring* had a rise and *back* a fall). If this is so it suggests that 'subordinate' here means something like 'depending on a nearby falling tone; unable to stand alone', that is, a similar meaning to the 'continuity' proposed by Cruttenden; and indeed Fox later calls the subordinate tone group *dependent*. Bolinger (1986) similarly regards a rise in pitch as signalling initiation and a fall as signalling completion: this sequence can be manifested within a single contour by the typical jump up in pitch on the onset and fall on the nucleus; or across contours, indeed across speaker turns, as in a question and answer sequence where the question ends in a rise and the answer in a fall. Bolinger observes the similarity between

If you↗want it,↘take it.

and

Do you↗want it?↘Yes.

(p. 261)

Couper-Kuhlen (1986:196) identifies as a cohesive device binding tone groups together

> 'the alternation of two different events, one of which is subsidiary to the other... we can observe this happening within a compound tone-unit where a rise alternates with a fall, and across tone-unit boundaries... the rise has the subtle, quasi-musical effect of demanding a "resolution", which however is "postponed" until the next tone-unit'.

A stereotyped example of the phenomenon Couper-Kuhlen describes is the following announcement, made by a disembodied voice, which was heard on a Dresden tram:

Nächste Haltestelle | Ubigau

'Next stop [will be] Ubigau'. The announcement begins with a rise, 'demanding a "resolution"'; the fall on the name of the tram stop provides it. I call sequences of this

kind **completive sequences**. The end-rising contour initiates the sequence and the end-falling contour completes it.

The use of tunes with a final rise constitutes a departure from the default pattern of a falling contour. Yet the departure is not a decisive one. B and E tunes have a fall of some kind as well as a final rise, although C tunes do not. In the Keats data there is a combined total of 38 B and E tunes, compared with 13 C tunes, and in the MacNeice data of 29 B and E tunes compared with 14 C tunes. Thus a large majority of tunes which have a final rise also have a variety of the fall from high to low pitch which constitutes the default pitch pattern, and which through constant recurrence is a pervasive feature of each recitation. When a final rise is used, in most cases the break with the default pattern, though real, is not absolute. We have seen that the default pattern is departed from infrequently, that poetic performance has a ritual quality, manifested in its pitch patterns (15.4.4). We find not only an avoidance of variation, but that the variations which are used tend to preserve much of the default pattern.

Because C and A tunes, unlike B and A tunes, have no features in common, when a C tune is used to initiate a completive sequence this brings out the contrast between the initiating and completing component more than does a B tune, emphasising more, perhaps, that the initiation and completion of the sequence complement each other semantically: they are different, and both are necessary. A sequence of C + A resembles a single contour, in the manner noted by Bolinger, more closely than does a B + A sequence, because a C tune, which remains low until its end-rise, mimics more closely the typical jump up to the onset: a C + A sequence is more clearly two halves of one complete whole.

The completive sequence works in a stereotyped way: an end-rising initiation is immediately followed by an end-falling completion, both contours being somewhat mannered. The actually occurring examples in the data resemble Cruttenden's invented examples, or the still more stereotyped ones of Armstrong and Ward (1926) (see 14.1.3), both of which are simply examples designed to illustrate the general point, rather than the more variable contours we would expect to hear in conversation. It is as if, in verse recitation, a theoretical model of pitch patterns were being observed too well.

18.1 Completive sequences in the data

Completive sequences are shown in table 18 for the Keats data and table 19 for the MacNeice data. As in tables 14 and 15 (see 16.1) each column is devoted to one reader and each tune shown is associated with the segment of text opposite it. Each completive sequence is initiated by an end-rising tune (B/C/E) or occasionally an F tune substituting for an end-rising tune. The sequence normally persists until the next end-falling tune down - usually an A tune, occasionally D; in one case, Reader 9's sequence *even... himself*, an F tune substituting for a fall. In most cases the completing tune will be the one immediately below the initiating tune but there are cases (see below) where more than one end-rising tune occurs before completion is reached. There are also three cases (Reader 9: *I look o'erhead... Heaven*, and Readers 12 and 17: *Are nothing in size... uvula*) where an end-rising tune completes as well as initiates the sequence.

Table 18 - Keats: completive sequences

Reader:	1	2	3	4	5	6	7	8	9
Text									
Read me a lesson, Muse,			B2a			B2a	B2a		
and speak it loud/						A2a			
and speak it loud/ Upon the top of Nevis,			A2b				A2b		
I look into the chasms,						B4			
and a shroud/ Vaporous						A1c			
just so much I wist/				B1a	B1a	B2b			
Mankind do know of Hell.				A2a	A2b	A4c			
I look o'erhead,/	B2a	B2a		B2a		B2b		C1	B2a
And there is sullen mist;	A1c	A2a		A2a		A1c		C1	C1
even so much/			B2a		C1			C1	
Mankind can tell of Heaven.			D1		A2b			A2b	
Even so much/ Mankind can tell of Heaven.									B4
Mist is spread/					C1				
Before the earth,					C1				
Mist is spread/ Before the earth,	B1a								
beneath me -	C2				A3				
Before the earth, beneath me -		B2b							
even such./	A2a	D2b							C1
Even so									C1
vague is man's sight of himself./									F
Even so vague		E2							
is man's sight of himself./		A2a							
Thus much I know,	B2a		B1c			B2a			
that,	F					C2			
Thus much I know, that,		B2a							C1
a poor witless elf./	E1	A2a				B2a			A1a
that, a poor witless elf./			A1a						
I tread on them,	A1a					A2a			
that all my eye doth meet/	B2a			B1a	B4	B4	B1a	B1a	
Is mist and crag,	A2a			A1a	B2b	A2a	A1a	A2a	
that all my eye doth meet/ Is mist and crag,		B1b							
not only on this height./	B1c	A1c			B4				B1a
But in the world of thought	A1c						E1		
and mental might.							A2a		
But in the world of thought and mental might.					A2b				A2a

Table 19 - MacNeice: completive sequences

Reader:	10	11	12	13	14	15	16	17	18	19
Text										
The further-off people are			B2a							
the smaller.			A3							
Grandparents./	F	F	F	C1	C1	C1	C1	B3	F	F
Homeric heroes	A2a	A2a	A2a	A2a	A2a	A2a	A2a	A2a	A2a	A2a
and suffering Bantu/						C1				
Are nothing in size			B4		B4	A4c		B4		
to the tax-collector/			C1		A4a			C1		
Are nothing in size to the tax-collector/		B1c								B1c
Or the dentist			C1					B2a		
breathing fire			B3					B2a		
on one's uvula.//			C1					B2a		
Or the dentist breathing fire on one's uvula.//		A1c								A1c
bulks larger/							C2			
Than the massive magnate at the turn of the stairs/		B1c								
Than the massive magnate						B1a	A2a			
at the turn of the stairs/						B1a		B4		
While the coffin		A3				A3		A3		
By the west door/						C1				
Screens						A3				
Yet								B3		
sometimes								A3		
Yet sometimes			E2			B3				
for all these rules of perspective/		B1a	B1a	B4		A1c				
The weak eye zooms,		A1a	A2a	A1c		C1				
the distant midget/		C1								
Expands to meet it,		A2a								
the distant midget/ Expands to meet it,			B1a			B1c				
far up stage/ The kings						D1				
far up stage/ The kings go			A1c							
And down at the end of a queue	B1a	B4	B2b				B1a			
some infant/ Of the year Two Thousand	A1c		A2b				A2b			
some infant/		C2								
Of the year Two Thousand		A1a				B2a				
straddles the world/						A1c				

We do indeed find in the data that sequences of pitch patterns consisting of a tune with a final rise followed by a tune with a final fall map onto textual sequences consisting of a constituent which initiates the sequence and which ends with a sense of continuity, followed by a constituent which completes the sequence. The more specific aspects of this general interpretation vary. Readers, as usual, have many options as to how they structure the text prosodically, and show great variety. As is the case with echo and similarity, it appears that completive sequences are attracted more to a general area of the text than to specific segments: a number of readers may make completive sequences in the same general area but will differ quite a lot as to the precise boundaries of the tunes; in some cases the textual segments covered do not make complete sense on their own, and in others the prosodic completion of an end-falling tune will come at a point that is not one of syntactic completion.

Three other aspects of the completive sequence are notable, and are referred to in particular examples. First, the completive sequence is not the only way of prosodically marking close cohesion between the elements of a constituent. In some of the same parts of the texts some readers may mark the close cohesion by using a single tune where other readers have the two (or more) tunes of a completive sequence. Bolinger's observations on initiation and completion both within and across pitch contours, referred to above, suggest that the completive sequence and the single tune are close cousins, and that the distinction between them is a matter of degree. We should be aware, when assessing the significance of the incidence of completive sequences in each case that the single-tune renderings exist. The contexts in which single tunes are used are as follows:

Keats

just so much I wist/ mankind do know of Hell. (4 readers.)

even so much/ Mankind can tell of Heaven. (4 readers.)

that all my eye doth meet/ Is mist and crag, (2 readers.)

mist is spread/ Before the earth (7 readers.)

Before the earth, beneath me (Reader 2 only.)

But in the world of thought and mental might. (2 readers.)

MacNeice.

The further-off people are the smaller. (6 readers.)

some infant/ Of the year Two Thousand (5 readers.)

Are nothing in size to the tax-collector (3 readers.)

Or the dentist breathing fire on one's uvula. (2 readers.)

Second, the recurrence which exists simultaneously with contrast between the pitch patterns in a completive sequence consisting of a B tune followed by an A tune may be heightened by the use of the same type of fall in both. When this is done there is a near-echo: the patterns of the B and A tunes would be identical if it were not for the fact that the B tune has a final rise and the A tune does not. This strong affinity is acknowledged by the classification scheme, which gives both the B tune and the A tune in such cases the same subdivision, the subdivision denoting the type of fall the tune has. This kind of near-echo appears to be a device which brings out especially clearly the neatness - over-neatness in comparison with the sort of thing that occurs in

conversation - of the completive sequence as a prosodic phenomenon. It does not, however, show any tendency to be used, for example, to mark especially close cohesion between the textual segments contained within the completive sequence: it is simply that, in places where there is a relatively high incidence of completive sequences the relative incidence of these near-echoes also increases, although it is always a minority taste.

Third, some completive sequences consist of a sequence of more than one end-rising tune followed by an A tune. (Fox (1984:125) observes that the 'dependent' tone groups he identifies can occur recursively.) This can happen when a reader prosodically subdivides the segment of text which carries the initiation of a completive sequence. Since the parts into which it is subdivided all belong to the initiation of the sequence they all carry an 'incomplete' pitch pattern; there is recurrent initiation before the completing tune with its end fall occurs. Some cases of this phenomenon may be due to early closure (see chapter 16 introduction): successive end-rising tunes each end at a point where there is still a sense of incompleteness in the text, as if the first one took in too little of the 'initiating' material, and further ones had to be added as to repair this.

18.1.1 Clusters of completive sequences

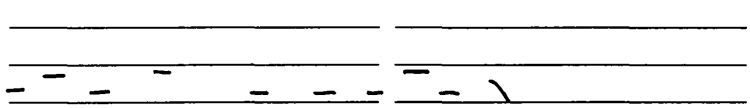
We can begin by examining those places in each text which attract a high proportion of rise + fall pitch-pattern sequences. Each poem has three of these.

18.1.1.1 Keats

In the Keats these three are as follows:

I look o'erhead,/ And there is sullen mist;

Here six out of nine readers have a sequence of two tunes beginning with a tune ending with a rise. In all cases the boundaries of the tunes are the same. Reader 6, who has a B2b tune followed by an A1c, will serve as the exemplar:

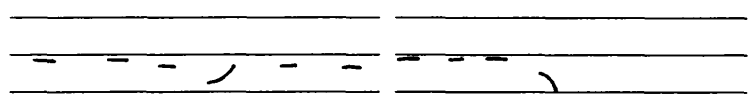


I look o'erhead/ | And there is sullen mist;

The motivation for a completive structure here is clear enough. There are two co-ordinated main clauses; Cruttenden (1981:80), as we have seen, observes that 'the first of two co-ordinate clauses typically has some sort of rising pattern'. But this is not merely a case of a suitable syntactic pattern: the second clause relates the consequence of the action performed in the first - that mist is seen. The two clauses together convey a single part of the discourse. The first clause is syntactically complete on its own; the two clauses together form an extension and not an arrest-release structure (see 4.1). Yet the first clause is from the point of view of this poem semantically incomplete in the sense that not everything that has to be conveyed has been conveyed by the end of the first clause.

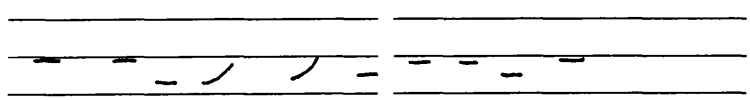
Thus much I know, that, a poor witless elf,/ I tread on them,

Five out of nine readers have a completive structure through all or part of this clause. All readers divide the line *Thus much... elf* into two or three tunes, having boundaries between them at *know*, *that* or both. The completive structure may consist of that line alone (Readers 2, 3 and 9). Reader 2, for example has a sequence of B2a and A2a:

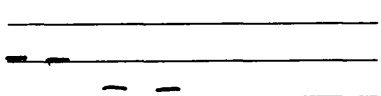


Thus much I know, that, | a poor witless elf,

For Readers 1 and 6, on the other hand, this line initiates the sequence, and completion comes in the next line. Reader 6, for example, has a sequence of B2a + C2 + B2a + A2a, using recurring initiators:



Thus much I know, | that, | a poor witless elf,/ |



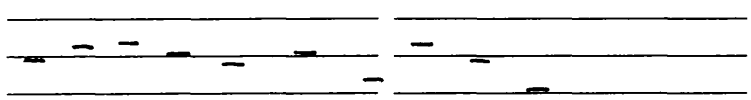
I tread on them,

These two examples, incidentally, both increase the cohesion between the two tunes in the sequence by using the same subtype for both B and A tunes. Both these sequences can be justified in textual terms. *Thus much I know (that)* sets up an expectation of more to follow: *Thus much* is here a cataphoric reference to the contents of the two noun clauses (*that a poor witless elf* etc. and *that all my eye doth meet* etc.) which follow. And the noun phrase *a poor witless elf* serves as a premodifying adverbial to

I tread on them; the main point of the clause has not yet been reached when we get to *elf*. Both *Thus much I know* and *a poor witless elf*, are arrests, release coming only with *I tread on them*, when completion takes place syntactically as well as semantically. Either *Thus much I know* or *a poor witless elf* can therefore be appropriately rendered with an end-rising tune.

that all my eye doth meet/ Is mist and crag, not only on this height.

Six out of nine readers have a sequence of B tune + A tune here, five of them mapping them onto the text as Reader 7 does with this sequence of B1a + A1a:



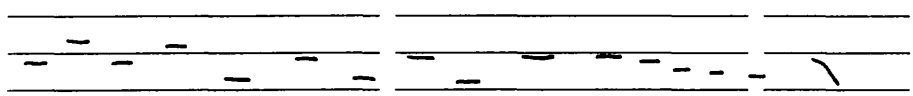
that all my eye doth meet/ | is mist and crag,

The B tune is placed on the subject of the clause, and the A tune on the predicate. Both components are necessary for the clause to be syntactically complete; the line boundary after *meet* is an arrest which is released by the predicate in the next line. Thus, when we reach the end rise of the B tune on *meet* this rise is congruent with the syntactic incompleteness and the fact that a line boundary occurs at *meet*; the downward movement of pitch throughout the A tune, ending with the step down to near the speaker's baseline on *crag*, gives a signal of prosodic completeness to go with the syntactic release.

In this example too there is an echo between the falling components of the tunes. In both tunes there is a gradual descent from a peak: from *my* to *doth* in the B tune and

from *mist* to *crag* in the A tune; there is a close resemblance; but there is also the difference that following this descent the B tune has a step up to *meet* whereas for the A tune the end of the descent is the end of the contour.

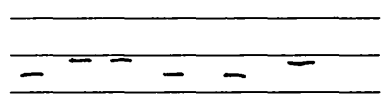
Reader 2 maps a completive sequence onto a slightly different string of text, having a B1b tune on the whole of *that all... crag* and an A1c following it:

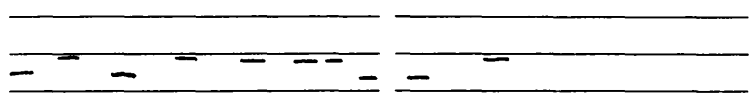


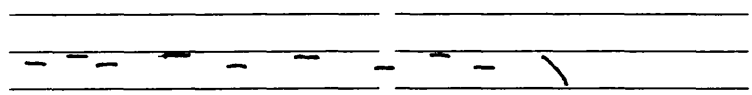
that all my eye doth meet/ Is mist and crag, | not only on this height/

Here the postmodification *not only on this height* is an extension of the noun clause beginning *that all.* It is not essential to the syntactic completeness of the clause, but since it exists then by definition the preceding part of the clause has continuity into it, and it is reasonable therefore to give *that all... meet* a tune with an end rise. The slight oddity is that *not only on this height* itself does not end the clause, yet it has the prosodic completion. *But in the world of thought* etc. follows; and since though the construction *not only... But...* is a well-established form with its own cohesion we might expect that *not only on this height* would carry the initiation and what follows it the completion.

Reader 5 has a sequence of three B tunes (B4 + B2b + B4) followed by an A2b, thus:


that all my eye doth meet/ |


Is mist and crag, | not only on this height, |


But in the world of thought and mental might.

This single complex noun clause is rendered with four tunes. Since this is all one clause there is a sense in which completion does not come until the end of it (which is also the end of the poem); and all tunes but the last are end-rising tunes. The signal of incompletion recurs, the (prosodic) completion of the completive sequence not coming until the A tune at the end.

18.1.1.2 MacNeice

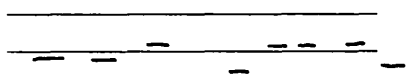
In the MacNeice data the places in the text which attract a high proportion of rise + fall pitch-pattern sequences are in broadly similar contexts to those in the Keats data. Again there are three. However in this poem in no place does a cluster of completive structures include more than half the readers.

Grandparents/ Homeric heroes

Five readers render *Grandparents* with a tune with an end rise. The word is the first in a closed list of three items. Since it also begins a sentence, and is divided by a line

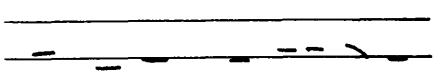
boundary from the other two items in the list (*Homeric heroes and suffering Bantu*) it clearly does not form a complete construction in its own right. On the other hand the list as a whole, although still not making full sense on its own, does have its own cohesion, both as a list, and in that the three co-ordinated noun phrases that compose the list together form the subject of the verb *Are*. The line that *Grandparents* ends is strongly run on. An end rise marks the continuity between the lines, and the fact that the first line ends with an arrest. The initiation of the (prosodic) completive sequence takes place at a point where (verbal) completion is necessary.

An interesting point about the patterns used on *Grandparents* is that, of the five readers who use a tune with an end rise, four use the rarer C tune rather than a B tune, for example Reader 13:



Grandparents,/ | Homeric heroes

Here a C1 tune is followed by an A2a. Whereas B tunes have a fall before the end rise, thus preserving some likeness between them and a following A tune, a C tune does not, and is consequently unlike a following A tune. This cluster is the only concentration of C tunes in completive sequences in either poem, although it is not clear why one should occur here. It is not as if a B tune was not possible, as Reader 17 demonstrates by having a B3 tune followed by an A2a:



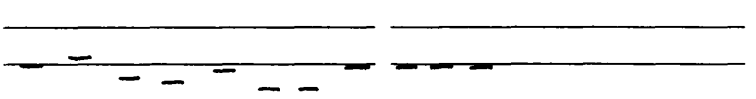
Grandparents,/ | Homeric heroes

The B tune here has a sharp fall; indeed it is of greater magnitude than the end rise.

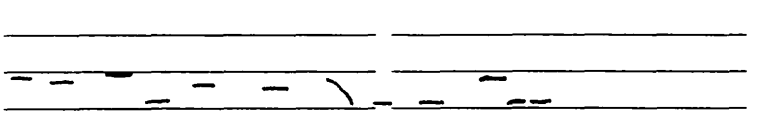
Are nothing in size to the tax-collector/ Or the dentist breathing fire on one's uvula.

In essence, four of the five readers who have a completive sequence running through parts of these two lines are in various ways flagging the listing structure, which takes the form 'x or y'. The second line of this pair is an extension of the first: the three items in the list at the beginning of the poem 'Are nothing in size to the tax-collector'; this comparison is complete in itself. But then a comparison is also made with 'the dentist breathing fire on one's uvula'; there is an elaboration on the theme. Those readers who end line 3 of the poem with a rise mark the fact that this elaboration is to come.

The precise manner in which the extension structure is marked prosodically varies. Readers 11 and 19 have a single B tune (B1c) extending along the whole of the first line of the pair, initiating the sequence, then a single A tune (A1c) extending along the second line of the pair, completing it. For example Reader 19:



Are nothing in size to the tax-collector |

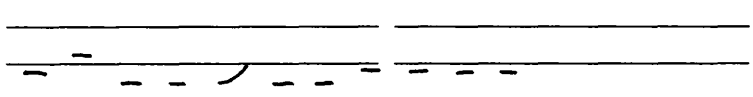


Or the dentist breathing fire on one's uvula.

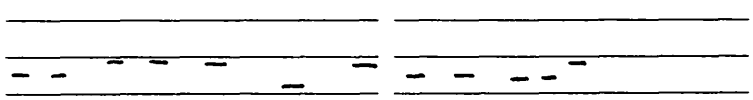
There is a strong syntactic cohesion between these lines although they are not in conventional terms strongly run-on: the line boundary is a natural enough place for a

prosodic break; no syntactic constituent is violently cut in two by it. The sequential relationship between these lines is indicated by the sequence of rise + fall; that in a more general sense they belong together is indicated by the fact that the two tunes are of equivalent subtypes. Both tunes are characterised by gradual descents from high to low pitch which are checked by resets: in the B tune the descent is from *no(thing)* to *the* with an intermediate reset on *size*; in the A tune the descent is from *den-* to *uvula* with intermediate resets on *fire* and *uv-*. Both tunes also end with stretches of level pitch, but it is also here that the difference between them lies: there is a leap up to the level stretch on *tax-collector*, whereas the descent to the two unstressed syllables of *uvula* is the last downstep of the gradual descent.

The other main pattern we find in this part of the poem is shown by Readers 12 and 17: the lines are prosodically subdivided. The lines are delivered as it were in instalments; there is a progression of tunes with end rises until the construction finally is completed at the end of the stanza. This may be an example of early closure in which the additional material is encompassed in successive extensions to the initiation of the sequence. Reader 12, for example, has:



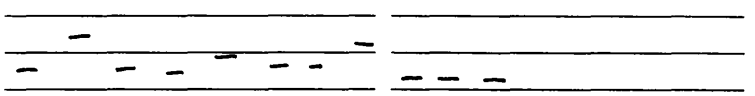
Are nothing in size | to the tax-collector |



Or the dentist | breathing fire | on one's uvula.

We see that here the sequence is completed as well as initiated by an end-rising tune (a C1), a phenomenon which is occasionally encountered; Reader 17 does this here as well.

Reader 14 simply employs a completive sequence over the single line *Are nothing in size to the tax-collector*, using a B4 followed by an A4a:

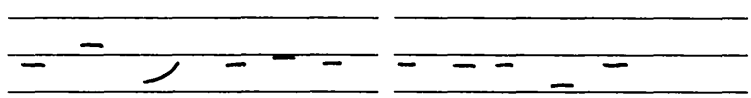


The initiation and completion are simply the initiation and completion of the line. Somewhat surprisingly *to the tax-collector* is an extension; if we pause at *size* there is no arrest: if we say that *Grandparents,/ Homeric heroes and suffering Bantu/ Are nothing in size* this does make sense alone; we are not necessarily about to make a comparison with anything. The completive sequence here simply marks two segments that belong together, syntactically, and as one line of verse. This is effect is enhanced by the fact that the two tunes have the same numerical subdivision: both tunes have a sharp drop in pitch immediately after the peak on the onset; the B tune then has an upstep (to *size*) while the A tune remains low.

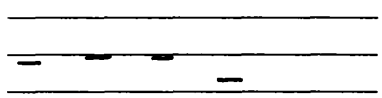
Yet sometimes for all these rules of perspective

Yet sometimes and *for all these rules of perspective* are both premodifying adverbials to the three listed clauses *The weak eye zooms, the distant midget/ Expands to meet it,*

far up stage/ The kings go towering into the flies. Yet sometimes is an arrest, but *for all these rules of perspective* is a further one: release comes only with *The weak eye zooms*. Hence either or both of these adverbials could logically be given a tune with an end rise; both have continuity with what follows them. The distribution of such tunes among the readers is in fact variable. Reader 12 is the only one who renders both adverbials with an end-rising tune, having an E1 followed by a B1a, then an A2a for the completion:

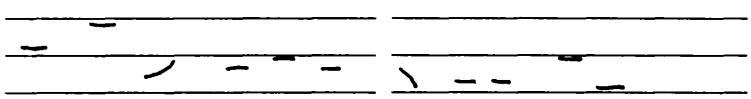


Yet sometimes | for all these rules of perspective/ |



The weak eye zooms,

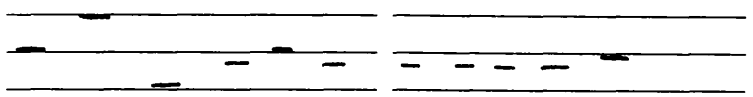
Reader 15 has a completive sequence consisting only of the two adverbials, following a B3 with an A1c:



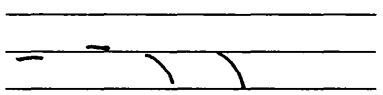
Yet sometimes | for all these rules of perspective/

The end fall of the A tune reaches the speaker's baseline, as if full completion had arrived because the end of the line has arrived, even though the syntax is clearly not complete by the line-end; the verse structure appears to count for more than the sense here for this reader.

Readers 11 and 13 have an end-rising tune only on the second adverbial. Reader 13, for example, has this sequence of A3 + B4 + A1c:



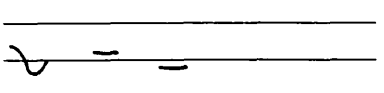
Yet sometimes | for all these rules of perspective/ |



The weak eye zooms,

Here the first adverbial, *Yet sometimes*, is rendered with an end fall which reaches the speaker's baseline. A possible interpretation of this pattern is that it is *for all these rules of perspective/ the weak eye zooms* which this reader treats as the completive sequence, the adverbial initiating and the matrix clause completing: taking these two constituents alone, this would be an unexceptionable way of negotiating them prosodically. And they may well be taken alone, since *Yet sometimes* stands apart. It is more than its mere syntactic status as initial adverbial in this sentence; it is the turning point of the poem, the first indication that the principle that *The further-off people are the smaller* may not be universally true. It can therefore be foregrounded by being made to sound complete in itself, prosodically - the fall on *sometimes* is in fact especially marked, being a fall from the speaker's topline to his baseline.

Reader 17 indeed separates *Yet* from *sometimes* and gives the two words a short completive sequence of their own, a B3 tune followed by an A3:



Yet | sometimes

That *Yet* is placed on its own like this may indicate its discoursal importance - the poem's turning point is invested in *Yet* rather than in any other word - but its cohesion with *sometimes* is close enough to exert pressure that it be indicated in the pitch patterns despite this separation.

18.1.2 The completive sequence as an optional device

The above cases are ones where a large number of readers use a completive sequence, and we might expect that these cases show strong justifications for the use of this device which cannot be found elsewhere in the texts. But this is not so. If we look at places where only a few readers employ completive sequences, we find that the justifications for so doing are of the same sort; conversely, where many readers do use them there is always a dissenting minority which does not. Parts of the texts which attract only a few completive sequences can be classified into broad contexts. There are three such broad contexts: co-ordination, extension structures other than co-ordination, and arrest-release structures (see 4.1 for a definition of these terms). Yet the cases that attract large numbers of completive sequences can also be grouped into these categories, thus:

Co-ordination: *I look o'erhead,/ And there is sullen mist; Are nothing in size to the tax-collector/ Or the dentist breathing fire on one's uvula.*

Other extension structures: *that all my eye doth meet/ Is mist and crag, not only on this height.*

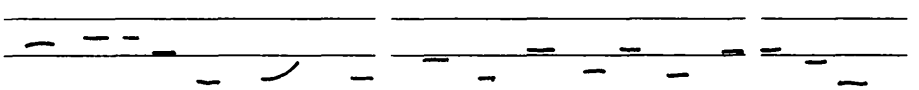
Arrest-release structures: *Thus much I know, that, a poor witless elf,/ I tread on them, that all my eye doth meet/ Is mist and crag, Grandparents/ Homeric heroes Yet sometimes for all these rules of perspective*

There seems little difference in the motivation for using completive sequences between those parts of the text which attract many and those which attract only a few. This remains true if we now look in detail at those cases which attract only a few completive sequences.

18.1.2.1 Co-ordination

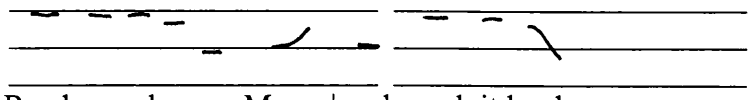
Read me a lesson, Muse, and speak it loud

Three readers make a completive sequence on this pair of imperative clauses; in the case of two of them the second, completing, tune also includes the second clause's postmodification, *Upon the top of Nevis*. Reader 7, for example, has a sequence of B2a and A2b:



Read me a lesson, Muse, | and speak it loud/ Upon the top of Nevis

In the first line of the poem Reader 6 uses a completive sequence with equivalence of subtypes, a B2a followed by an A2a tune:



Read me a lesson, Muse, | and speak it loud

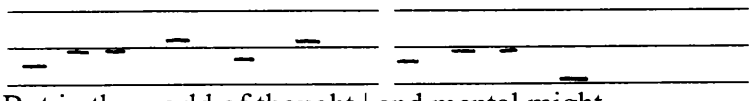
In both tunes pitch remains high for an appreciable time before dropping; the falls in both contours are very similar. The difference between the tunes is simply that in the B tune the fall is followed by a rise while in the A tune the fall ends the contour.

I look into the chasms and a shroud/ Vaporous doth hide them

This is syntactically and semantically very similar to *I look o'erhead,/ And there is sullen mist;* yet, so far from attracting the cluster of completive structures that the latter does, there is only one, made by Reader 6. One possible reason for this is the different syntactic position of the line breaks in each case. Another is that the use of a rising tune on *I look o'erhead* conveys not only the continuity from this clause to the one that follows it but also the contrast between *I look o'erhead* and the earlier, related but different *I look into the chasms*.

But in the world of thought and mental might

Here too there is only one completive sequence, made by Reader 7, who has an E1 tune followed by an A2a:

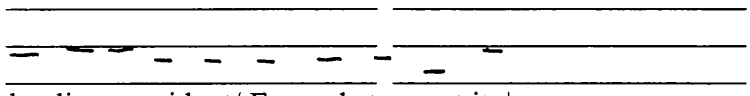


But in the world of thought | and mental might.

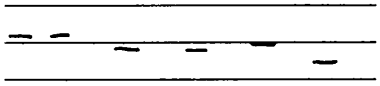
The two halves of the sequence here are not syntactically equivalent; the co-ordination is between the noun phrases *thought* and *mental might*, both complements of the preposition *of*. It is as if, there being only a lower-level syntactic constituent left in the poem, this reader gives *But in the world of thought* an end-rising tune to *create* the expectation of an extension to the construction, so that the end of the poem can be marked by the final fall.

The weak eye zooms **etc.** (2 Readers).

The listing of clauses here constitutes a special case of co-ordination. The two readers who have some kind of completive sequence somewhere in the listing construction are not systematic about including the whole list in the completive sequence. Reader 12 has a B1a tune on the second clause followed by an A1c on the first half of the third:

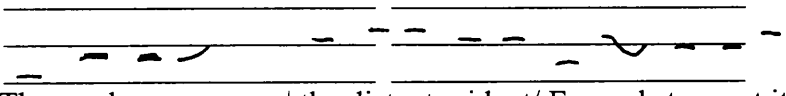


the distant midget/ Expands to meet it, |



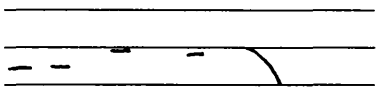
far up stage/ The kings go

Reader 15 has this sequence of C1 + B1c + D1:



The weak eye zooms, | the distant midget/ Expands to meet it, |

(*Continued overleaf*)



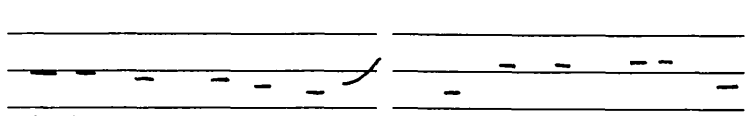
far up stage/ The kings

The first two tunes, with their end rises, maintain continuity to the third, which ends in a fall and completes the sequence. Normally a B tune, which consists of a fall of some kind then an end rise, does not 'chime' well with a D tune, which consists of an initial rise then a fall, because, taken as a whole, the contours of these tune types are mirror images of each other (see 15.2.1). This sequence is an exception to the rule. The B1c tune here does have some affinity with the D1 because the D1 here cannot quite be taken as a whole: *far up stage* and *The kings* are separate rhythmic groups that is, they form separate sequences of onset and nucleus, even though they are enclosed by a single pitch contour; the first realises the initial rise of the contour and the second the end fall. It is the partly separated initial rise which constitutes a recurrence of the rises of the C and B tunes; the end fall contrasts with them, as it would in an A tune in the same context. The constituents of the D tune themselves have forms that are the outlines of pitch patterns. The principle that nucleus groups have their own pitch patterns which are embedded in the patterns of tunes operates generally, and is discussed in 20.1.

18.1.2.2 Extension structures other than co-ordination

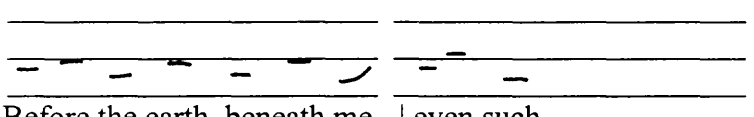
Mist is spread/ Before the earth, beneath me - even such (3 readers)

Here the observation *Mist is spread/ Before the earth, beneath me* leads to the reflection *even such/ Even so vague is man's sight of himself.* The latter ends the sub-topic that the former has begun. Reader 1 has a sequence of B1a + C2 + A2a:



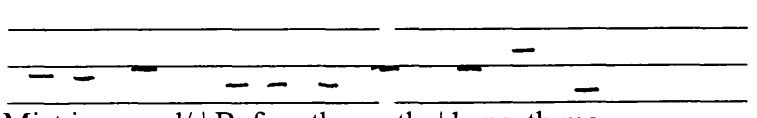
Mist is spread/ Before the earth, | beneath me - | even such

even such begins a commentary on the observation (*Mist is spread* etc.) which precedes it; observation and commentary go together, and in this sense the observation on its own is incomplete. The observation therefore naturally attracts an end-rising tune, but because in fact two tunes are here used to render *Mist is spread/ Before the earth, beneath me* we get two end-rising tunes. There is early closure on *earth*, when the clause has still to be completed by the additional prepositional phrase *beneath me*. This is repaired by a second end-rising tune on *beneath me*; the initiation recurs before the completion arrives. Reader 2 does not include *Mist is spread* in the completive sequence, having a B2b tune on *Before the earth, beneath me* followed by a D2b tune (D tunes like A tunes end in a fall) on *even such*; :



Before the earth, beneath me - | even such,

Reader 5, however, treats *Mist is spread/ Before the earth, beneath me* as a completive sequence in its own right; he marks the point at which the observation is complete, and treats the reflection which follows from it as separate. Like Reader 1 he makes the initiation in two parts. The sequence is C1 + C1 + A3:

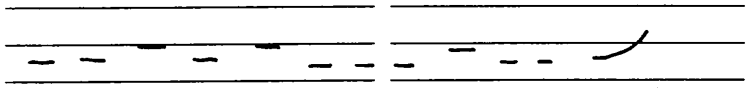


Mist is spread/ | Before the earth, | beneath me -

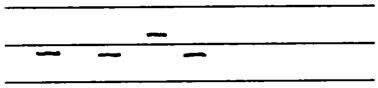
Than the massive magnate at the turn of the stairs/ While the coffin (3 readers)

The comparison between the *stunted commissionaire* and the *massive magnate* is complete in itself as an illustration of the principle stated in the poem's first line; the comment on the coffin adds a further illustration of the principle. A completive sequence linking these two illustrations can be seen as marking the fact that the second of them ends the poem's commentary on the initially-stated principle in its simple form; we reach completion in this sense.

All three readers who have a completive sequence here end the initiation of it with *at the turn of the stairs* and have the completion on *While the coffin* (itself syntactically incomplete). Where they differ is in the extent and form of the initiation. Reader 11 places the entire line in a single B1c tune, then makes the completion with an A3:

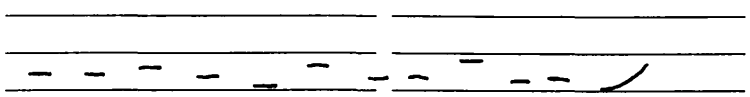


Than the massive magnate at the turn of the stairs/ |

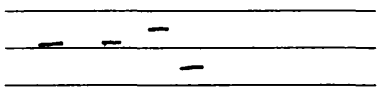


While the coffin

Reader 15 divides the line *Than... stairs* into two B1a tunes, so that the initiation recurs, and has two 'limbs' to it. There is early closure on *magnate*; a second B tune has to be used to incorporate the postmodification of *magnate*. Completion then follows with an A3:



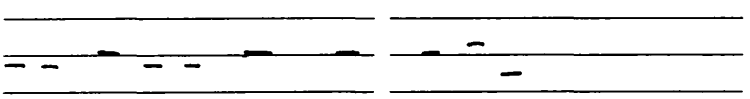
Than the massive magnate | at the turn of the stairs/ |



While the coffin

The fact that this is also an echo of B1a tunes heightens the degree to which the initiating component of the completive sequence recurs, and so marks the cohesion of the textual material encompassed by the Two B1a tunes.

Reader 17 uses only *at the turn of the stairs* to carry the initiation, and uses a sequence of B4 + A3:



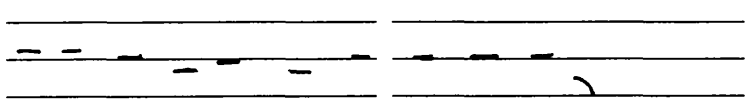
at the turn of the stairs/ | While the coffin

18.1.2.3 Arrest-release structures

These, we might say, are completion proper: the release of an arrest-release structure is 'completive' in the direct sense that its presence is essential to the construction being seen as syntactically complete, and so as making sense at all. Where arrest-release structures are spoken with completive prosodic sequences, without the segment of text which carries the completing tune we cannot make sense of the segment which carries the initiating tune.

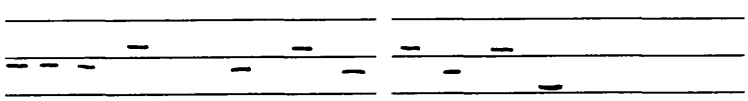
just so much I wist/ Mankind do know of Hell and even so much/ Mankind can tell of Heaven. (3 readers each).

Here we have deviant ordering: the objects of *know* and *tell* - respectively *just so much* and *even so much* - are placed at the beginning of the clause in each case, and separated from the rest of it by a line boundary: this exerts pressure to continue forward to make sense of the syntax and so the meaning. All the readers who have completive sequences here have the initiating tune on *just so much I wist* or *even so much* and the completing tune on the whole of what remains. In the first case the readers are Readers 4, 5 and 6. Reader 4, for example, has a sequence of B1a + A2a:



just so much I wist/ | Mankind do know of Hell.

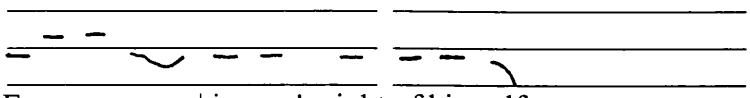
In the second case the readers are Readers 3, 5 and 8. Reader 8, for example has a sequence of C1 + A2b:



even so much/ | Mankind can tell of Heaven.

Even so vague is man's sight of himself. (Reader 2 only).

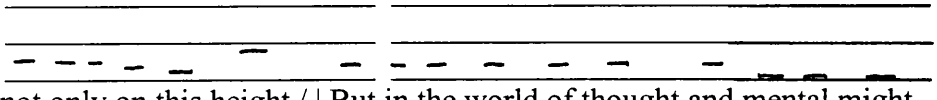
The divide here is between subject and predicate, both essential to the existence of a complete sentence. Reader 2 has a sequence of E2 + A2a:



Even so vague | is man's sight of himself.

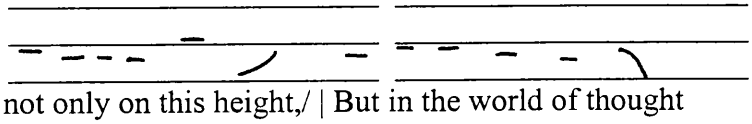
Not only on this height,/ But in the world of thought and mental might. (3 Readers).

The construction *Not only...* sets up an expectation of a second limb beginning *But...*, hence there is an arrest at the line boundary, after *height*; *But in the world of thought and mental might* provides the release - and of course the end of the poem. We have seen Reader 5's three recurring B tunes on *that all... height*, recurrently signalling incompleteness before the last line is delivered with a single A tune (18.1.1.1). Reader 9 likewise gives a single A tune to the poem's last line, but has only one preceding B tune to initiate the completive sequence. The sequence is one of B1a + A2a:



not only on this height,/ | But in the world of thought and mental might.

Reader 1 divides the last line in two, so that it is the first half only of that line that realises the completion prosodically. A B1c tune is followed by an A1c:

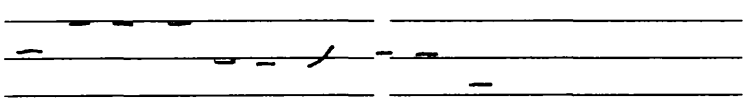


not only on this height,/ | But in the world of thought

Since the second half of the last line - *and mental might* - is an extension of *But in the world of thought*, *But in the world of thought* alone will suffice to give a sense that the construction begun by *not only on this height* has been completed; it is reasonable to exclude *and mental might* from the tune that completes the completive sequence.

The further-off people are the smaller (1 reader.)

This as we have seen (6.1.2) can be taken as a straightforward statement of fact - 'The further-off people are the ones that are smaller' - or as one of principle - 'The further off [that] people are, the smaller [they are]'. Either way, all the words of the sentence need to be present for this to be an intelligible construction. The one reader, Reader 12, who renders the sentence with a completive sequence treats it as a statement of general principle, dividing the two tunes after *are*, giving a nuclear accent to *are* and using a sequence of B2a + A3:



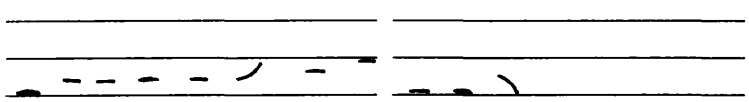
The further-off people are | the smaller.

Since all the words here are necessary to the completeness of the sentence this might seem to be an especially good context for a completive sequence. The fact that there is only one in our data is, however, compensated for by the fact that six readers render the sentence with a single tune, bringing the closely-cohering parts of the sentence within the compass of one pitch contour: prosodic subdivision of any kind is here a minority taste.

and suffering Bantu/ Are nothing in size (One reader).

The listed noun phrases *Grandparents,/ Homeric heroes and suffering Bantu* do themselves attract a large number of completive sequences as we have seen.

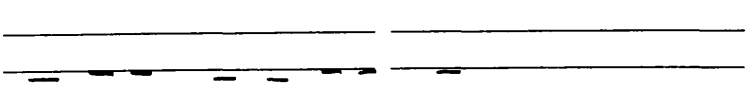
However, the list as a whole constitutes the subject of the verb *Are* that follows *Bantu*, so that the line boundary after *Bantu* is an arrest. *and suffering Bantu* can therefore initiate a completive sequence even though verbally it completes the listing construction. In fact only Reader 15 renders it thus; perhaps it is this tension caused by the fact that the noun phrase *and suffering Bantu* both completes and initiates that accounts for the fact that more readers do not, although six readers definitely use the device of high termination (see 18.1.4) which itself expresses this tension. Reader 15, however, has a sequence of C1 and A4c:



and suffering Bantu/ | Are nothing in size

bulks larger/ Than the massive magnate (One reader).

bulks larger introduces a comparison between its own subject, *the stunted commissionaire* and something else, which has not been revealed to us by the time we get to *larger*, which word signals the fact that we are being given a comparison, and ends the line. So we expect to learn what it is that *the stunted commissionaire* is compared to; this happens at the beginning of the next line with the words *Than the massive magnate* - this provides the release (*at the turn of the stairs* is an extension of *Than the massive magnate*). However, only Reader 16 uses a completive sequence here, of C2 + A2a:

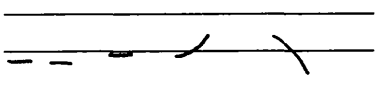


bulks larger/ | Than the massive magnate

That more readers do not use a completive sequence here may be because of the line boundary at *larger*: the completion of the formal unit of the line may count for more than the run-on from adjective to comparative clause.

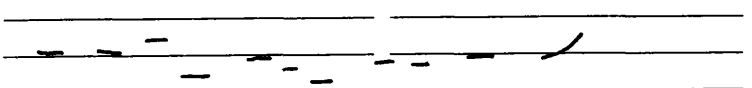
by the west door/ Screens (the chancel) (One reader).

the coffin entering by the west door is the subject of two co-ordinated predicates, *Screens the chancel* and *dwarfs the altar*. So, when a line boundary is reached after *door* what follows is necessary to compete the clause *While... altar*. Although it might seem an obvious use for a completive sequence to bind together a subject and predicate, only Reader 15 uses one here, a sequence of C1 and A3:



by the west door/ | Screens

the verb *Screens* is here prosodically divided from its object *the chancel*, so *Screens* alone completes the sequence. The C1 tune, in which pitch rises steadily throughout the contour, seems to be used solely for the purpose of initiating the completive sequence: the line as a whole consists of three tunes of which this is the last; the other three are A tunes, and so end in a fall:



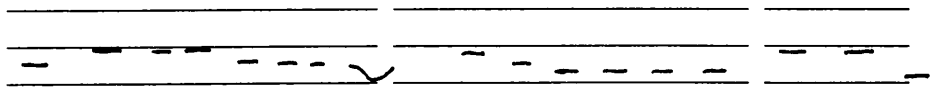
While the coffin | entering | by the west door

It is as if the rising contour at the end of the line complemented the other two tunes, being that part of a total pitch contour for the line which signals continuity with what follows.

If other readers prefer not to use a completive sequence across the line boundary *door/ Screens* this may, as at *larger/ Than*, reflect the integrity in the minds of readers of the verse-line as a structural unit: they preserve its prosodic integrity in recitation by ending a line with a fall, even where there is a close cohesion between the contents of one line and those of its successor.

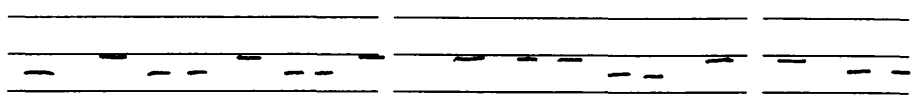
And down at the end of a queue some infant/ Of the year Two Thousand (Four readers)

And down at the end of a queue is an initial adverbial. *some infant/Of the year Two Thousand* is the subject of the same sentence. Three readers, Readers 10, 12 and 16, have completive sequences of B and A tunes between the adverbial and the subject. This is Reader 10, who has a sequence of B1a + A1c:



And down at the end of a queue | some infant/ Of the year Two Thousand

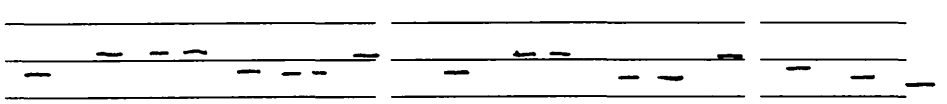
Reader 12 has a sequence of tunes with equivalent subdivisions, in this case B2b + A2b:



And down at the end of a queue | some infant/ Of the year Two Thousand

Throughout both tunes a steady alternation between a higher and a lower level pitch is maintained; there is thus a strong cohesion between them. The difference between them in this case is less that one ends with a rise and the other with a fall than that the B tune ends on an upward movement and the A tune with a downward movement of the constant alternation.

As well as these, Reader 11 divides *some infant* from its postmodification *Of the year Two Thousand*, and makes a sequence of B4 + C2 + A1a:

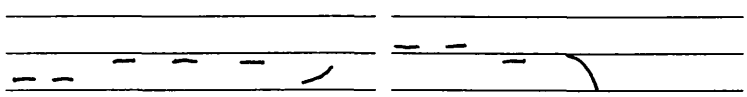


And down at the end of a queue | some infant/ | Of the year Two Thousand

The division after *some infant* apparently reflects the presence of a line boundary; but the internal cohesion of the noun phrase that cuts across the line division, which other readers mark by having a single tune extending along all of *some infant/ Of the year Two Thousand*, is here marked by the fact that *some infant* has an end-rising tune.

Of the year Two Thousand straddles the world (One reader).

The division here, at *Thousand*, is between subject and predicate. The sole reader to use a completive sequence here is Reader 15. The sequence is B2a + A1c:

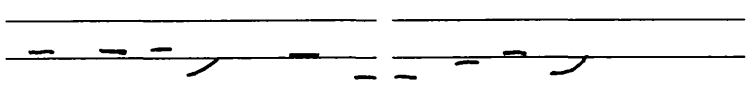


Of the year Two Thousand | straddles the world

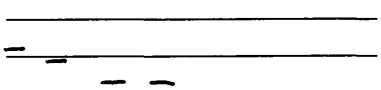
The B tune takes in only the postmodification of the subject (here too there is a prosodic division at the line boundary after *infant*), but the *boundary* between the tunes does come at the point where subject is divided from predicate.

18.1.3 F tunes as rise-substitutes.

We have seen (17.3.2) that F tunes, which remain level throughout their length, can be used to fulfil the same sorts of function as tunes which have an end-fall. Physically, however, level pitch can be said to be as close to a rise as to a fall; and in fact F tunes can also fulfil the same sorts of functions as can end-rising tunes. Reader 1, for example, has this sequence:



Thus much I know, | that, | a poor witless elf,/ |

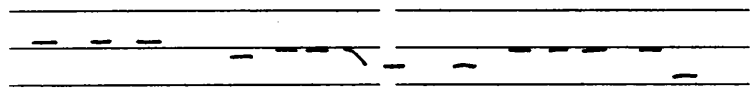


I tread on them,

Here we have a completive sequence with recurring initiators; it is only with the A tune on *I tread on them* that the sequence is complete. Of the three initiating tunes, those on *Thus much I know* and *a poor witless elf* (respectively B2a and E1) have end rises, but *that* has an F tune. In this context the level pitch on *that* is able to mark the

incompleteness of the construction just as the two end-rising tunes do, since it is at the same pitch as the end-points of the rises on *know* and *elf*, the former being adjacent to *that*.

In the MacNeice data the only F tunes occur on the word *Grandparents*: this is done by Readers 10, 11, 12, 18 and 19. In all these cases the F tune functions as the initiator of a completive sequence. (All those readers who do not have an F tune on *Grandparents* have an end-rising tune, usually a C1.) Reader 18, for example recites the two items in the list besides *Grandparents* with A2a tunes. The F tune ends at a relatively high pitch compared with the pitch the A tunes have reached following their final falls:



Grandparents,/ | Homeric heroes | and suffering Bantu

18.1.4 High termination

We have seen that, where a completive sequence consists of a B tune followed by an A tune a large part of the sense of continually recurring pitch patterns is preserved because B tunes share with A tunes the feature of a fall from high to low pitch even though there is the difference between them that B tunes have a final rise which A tunes do not. However, where two textual segments can be seen as constituting the initiation and completion, respectively, of a single construction, there is another way in which the difference between the initiation and completion can be flagged

prosodically even while the sense of constantly recurring pitch patterns is preserved. This is to have a sequence of two A tunes, but to make the first with **high termination**.

The *termination* of a pitch contour is the shape of its end, in particular the behaviour of pitch after the nuclear accent. While the British tradition of intonation analysis has usually assumed that the shape of the tail of a tone group is wholly governed by the nucleus, so that a fall-rise, for example, is treated as a distinct nuclear type even though the rise component of it is carried in the tail, the American practice (e.g. Hockett 1958) has been to separate the components of accent, pitch and juncture. Termination belongs to juncture, and is annotated separately from the last pitch accent in a contour (which in a British-style analysis is the nucleus by definition). Hockett, for example identifies three distinctive *terminal contours* transcribed as ↓, ↑ and |` which identify what pitch movement takes place after the last marked pitch level in a contour, and which stand respectively for a fall, a rise and a sustention of the last pitch level. The pitch levels themselves are numbered from 1 to 4, with 1 the lowest and 4 the highest. Thus

^{3}Bill^{2}↓

is a fall, and

^{3}Bill^{2}↑

a fall-rise: the descent in the last two *pitch levels* is the same, but the second example has a rising terminal contour while the first has a falling one. In

^{3}Well^{3} |

the last two pitch levels are the same, and the terminal contour maintains that pitch. According to Hockett 'the speaker has realized only after beginning to speak that he

must take time to think his answer out'; there is some tentativeness or incompletion here. (Hockett 1958:35-7)

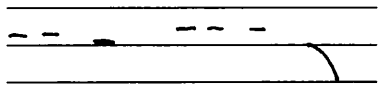
But supposing we were to encounter

^{3}Well^{2} |

Here pitch falls but the fall is not carried through into the terminal contour. The fall is likely to sound incomplete or suspended; there is some tentativeness about it even though the nucleus itself is a fall. The contour ends 'up in the air' in a similar fashion to one ending in a rise; indeed the opposition between rising, sustained and falling terminal contours is surely one of degree: in terms of the degree of incompleteness they signal, rise>sustained>fall.

If a pitch contour can end with a fall but not have a falling terminal contour it follows that in our system an A tune, which by definition ends with a fall or jump down in pitch (though the trend of pitch may have been downward throughout the contour) may nonetheless lack a falling terminal contour. If this is so then such an A tune can be used to signal tentativeness or incompletion; and can consequently be used as the initiator of a completive sequence. So where verbally we have two textual segments which constitute the initiation and completion of a single construction, if they are recited with a pair of A tunes, the pitch pattern may still signal a completive sequence if the first tune does not have a falling terminal contour.

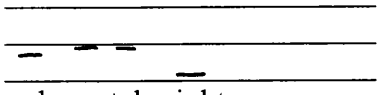
This does indeed happen, but quantifying its incidence presents a problem, namely deciding precisely where high termination is used and where it is not.



even such,/ | Even so vague

In this example from Reader 3 we have a pair of A2a tunes: in both pitch remains high through most of the contour until dropping at the end. But whereas the drop in pitch in the second tune is a downglide to the speaker's base line, in the first it is simply a jump down to the initiation point of what would traditionally be called a level tone, and the jump down itself is only as far as the speaker's midline. In this case, then, the first tune ends with its pitch sustained noticeably high in comparison with the second; and this high sustention is consistent with the fact that the second half of the two parallel phrases, *Even so vague* is still to come; the sequence is incomplete.

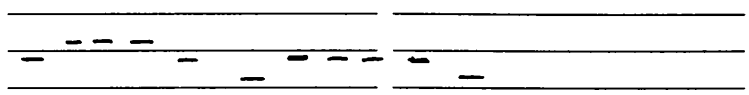
In the previous example high termination is signalled by two features: level tone and the ending of the contour at a relatively high pitch. Level tone on its own is not a sufficient marker although it might in theory seem inherently to lack the final fall of a falling terminal contour: when Reader 7 ends the poem with an A2a tune thus:



and mental might.

she has a level tone on *might* but descends to the baseline before producing it - the contour does not end high; and since this is the end of the poem the level tone is clearly not a signal of incompleteness.

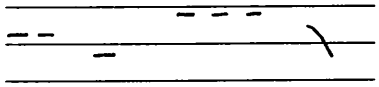
Conversely contours with falling nuclei may have high termination:



Homeric heroes | and suffering Bantu

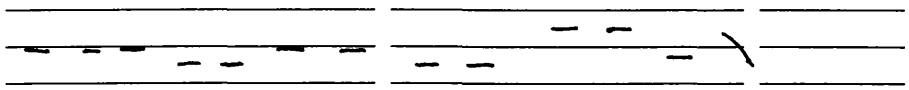
Here Reader 13 has a pair of A2a tunes which both have what would traditionally be annotated as falling nuclei, the first on *heroes* and the second on *Bantu*. But the fall on *Bantu* descends nearly to the speaker's baseline, while that on *heroes* ends only just below the midline. This difference allows us to regard the fall on *heroes* as having a sustained terminal contour. *suffering Bantu* is the last item in the list of three; the sustention on *heroes* marks the fact that there is another item to come.

The real problem with identifying sustention comes when the first contour of a pair seems as if it might have it, but the second contour is not different from the first. Reader 1 has this pair of A2a tunes:

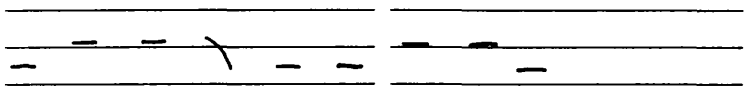


even such,/ | Even so vague

The descent to *such* ends some way above the baseline; but so does the descent on *vague*; there is no contrast between the tunes in respect of their terminal contours, and it is consequently unclear whether either or both can be considered a sustention. The sentence is of course still incomplete at *vague*; but the end-point of the following tune, on *is man's sight of himself* (which ends the sentence) is only fractionally lower: it is not clear that, in terms of pitch patterns, it completes what has been left incomplete by the previous two tunes. Similarly Reader 12 has this sequence of four A tunes (A2b + A1c + A2a + A2a):



some infant/ Of the year Two Thousand | straddles the world/ |

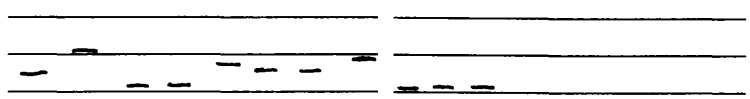


To match the child | that was once yourself.

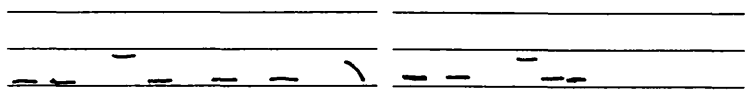
There are level tones on *Thousand* and *-self*, and falls on *world* and *child*; but in no case is the drop in pitch at the end of the contour decisively lower than in any other, although that at the end of the last contour is, as we would expect, somewhat lower. It is not, though, clear that all the tunes except this one lack a falling terminal contour and that this one has it.

We cannot, in short, compile a precise inventory of sustentions which can be mapped onto the text. All we can say is that, when marking prosodically textual sequences of initiation and completion some readers will preserve an even greater sense of the recurrence of similar pitch patterns than can be obtained by the use of a B + A sequence. A B + A sequence consists of a tune containing a fall followed by a rise, then a tune containing only a fall: it is the fall element in each that constitutes the recurrence. When sustention is used the sequence is A + A: the recurrence is greater, the difference between the tunes consisting in the fact that in the first one the fall is not taken to its logical conclusion.

We should not in any case assume that any sequence of two A tunes occurring in a context where some readers use a B + A sequence must be one in which the first tune ends in a sustention. For example in Reader 10's

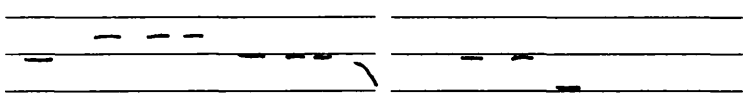


Are nothing in size to the tax-collector/ |



Or the dentist | breathing fire | on one's uvula.

we have a sequence of A tunes used on a sequence of textual segments which belong to a single construction, yet every contour, not just the last one, falls to or very near the baseline. And in Reader 15's



And down at the end of a queue | some infant

two textual segments are given one A tune each (A1a + A2a) but both textual segments end with arrests: the first is an initial adverbial and the second part of a noun phrase subject. Textually both segments are incomplete. Yet both are here rendered by tunes which end in a fall to the baseline, as if here the integrity of the verse line or half-line were more important (although this reader elsewhere seems fond of the use of rises to signal incompletion).

There is in a sense an opposition in terminal contours between rise and sustention on the one hand, and fall on the other. Both rise and sustention signal incompletion, and fall completion. But in another sense there is a three-way opposition. The idea of a binary opposition implies that the distinction between rise and sustention is redundant in phonemic terms, but this is not categorically true. Both

rise and sustention do *the same kind of thing* but they vary in the degree to which they do it. A sustention is less different from a fall than is a rise; consequently, in contexts such as we are discussing here, the use of a sustention rather than a rise allows a greater likeness to be preserved between the initiating and the completing tune in a completive sequence. The phrase *high termination* denotes the essence of what is done by rises and sustentions; *high* merely means *not low*. But it is a cover term for a property whose exponents can be divided into two types which differ in strength.

There are two phonological systems operating, of rather different kinds, one at the semantic-functional level and one at the level of verse-structure. This means that, even if rises and high terminations are functionally identical in that they both signal incompletion, in terms of the system of recurrent pitch patterns which counterpoint metre and verse form, they are different, in that an A tune with high termination is closer to other A tunes than is a B tune, with its much more definite contrasting feature of a final rise; there is a difference in degree of recurrence, in the way in which an alternative prosodic system asserts itself against the more formal systems. This difference of degree can be exploited semantically as well. We saw in 18.1.2.3 that a context which verbally is both completion and initiation, *and suffering Bantu*, has many high terminations. That neither an end-rise nor a complete fall is used in these cases suggests that high termination expresses the tension between the opposed functions which are being carried out simultaneously. This also suggests more generally that the differences between echo, similarity and the completive sequence are ones of degree: the differences are real enough, but all three contribute to the recurrence of pitch patterns which is the essence of verse-recitation style.

Section IV: Synthesis

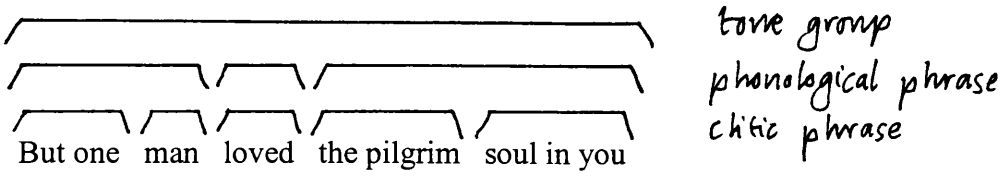
Chapter 19

The structure of the prosodic grouping system

In this chapter I try to establish what kind of overall system of grouping structure the various rhythmic and pitch-pattern groupings amount to. I argue that this is a loosely organised hierarchy of groupings which are not clearly separated from each other but are organised into higher- and lower-level groupings when this is required. I also examine discontinuity features in the recitations, arguing that these appear to form a separate and more clearly organised hierarchy, better suited to mapping onto the syntactic and discoursal hierarchies of the text.

19.1 A prosodic hierarchy?

Cureton (1992), in his model of the grouping structure of verse rhythm, postulates a *prosodic hierarchy* based on that of metrical phonology. He postulates rhythmic groups at each level in the hierarchy; these groups are subdivided into constituents, the constituents of groups at one level being by definition themselves groups at the level immediately below that. This structural principle is that of the *strict layer hypothesis* of metrical phonology. An example of his model is the following grouping structure which he gives for the first three levels of the hierarchy in this line from Yeats's *When you are old*:



(Adapted from Cureton 1992:406)

An analysis of this kind implies that verse normally contains multiple levels of well-defined rhythmic groups; that groups of different sizes can clearly be perceived simultaneously throughout.

Now in our data we have two kinds of prosodic grouping above the accent group, the nucleus group, defined in rhythmic terms, (see 8.3) and the tune, defined in terms of the shape of the pitch contour (see 15.2). It is also the case that a tune may extend over more than one nucleus group. It might therefore seem that we too have some kind of strictly layered hierarchy, that the nucleus group is a lower-level and the tune a higher-level prosodic grouping. In that case our empirical investigation would be evidence for the existence of a strictly layered hierarchy of groupings in the prosody of poetic recitation.

If, however, we examine the ways in which tunes are subdivided by nucleus groups we get a rather different picture. Since I treat a tune boundary as by definition also a nucleus group boundary we can gauge the extent to which tunes are subdivided into more than one nucleus group by comparing the number of tune boundaries with the number of nucleus group boundaries which are not tune boundaries. In the Keats recitations there are 227 tune boundaries and 83 mid-tune nucleus group boundaries, and in the MacNeice recitations there are 306 tune boundaries but again only 83 mid-

tune nucleus group boundaries. Thus from the start it is clear that as a generality we do not have a structure of lower-level rhythmic groupings combining to form higher-level pitch-pattern groupings. Rather, the norm is that nucleus groups and tunes are co-extensive, and that the subdivision of tunes is an occasional device. A hierarchy is not a central feature of verse prosody.

Where is this device of subdivision employed? We can tabulate all the mid-tune nucleus group boundaries according to the number of readers who have such a boundary at each point (that is, immediately after the words given below).

19.1.1 Keats

More than half the readers

lesson (6 readers); *Mankind* (line 5 - 6 readers); *Mankind* (line 7 - 5 readers); *spread* (5 readers); *eye* (6 readers).

Four readers

much (line 4); *wist*; *much* (line 6); *stones*; *mist* (line 13).

Three readers

loud; *Here*; *that*; *world.*

Two readers

there (line 6); *tell*; *Mist* (line 7); *sight*; *know* (line 11); *meet*; *thought.*

One reader

blind; *look* (line 3); *Vaporous*; *just*; *look* (line 5); *earth*; *vague*; *much* (line 11); *all*.

It is difficult to see a pattern to this. There is little association between the incidence of nucleus group boundaries and the strength of the co-occurring syntactic boundaries, for example *Vaporous* is given a boundary by only one reader while both occurrences of *Mankind* are given boundaries by more than half the readers, yet all these are boundaries between subject and predicate, and occur at the beginning of a line. We might indeed have expected *Vaporous* to have attracted more boundaries, since it ends a more complex noun phrase than *Mankind* (both occurrences of which are single word noun phrases), one which is draped across the preceding line boundary and which is foregrounded by placing an adjective after the head noun. If, however, we continue to tabulate according to the number of mid-tune nucleus group boundaries that occur but examine only those points which also attract some tune boundaries, we get the following:

More than half the readers (i.e. making a mid-tune nucleus group boundary)

spread (2 tune boundaries)

Four readers

wist (5 tune boundaries); *much* (line 6 - 5 tune boundaries); *stones* (4 tune boundaries).

Three readers

loud (5 tune boundaries); *that* (4 tune boundaries).

Two readers

sight (1 tune boundary); *know* (7 tune boundaries); *meet* (7 tune boundaries); *thought* (7 tune boundaries).

One reader.

blind (2 tune boundaries); *Vaporous* (7 tune boundaries); *earth* (8 tune boundaries); *vague* (8 tune boundaries).

A pattern is clearer here. Where there are many mid-tune nucleus group boundaries there are few tune boundaries; and these are relatively weak in syntactic or discoursal terms. Where there is only one mid-tune nucleus group boundary there are either many tune boundaries or none at all. If many, we find relatively strong syntactic or discoursal boundaries (where we would expect a high incidence of tune boundaries), such as that at *Vaporous*; and if few, this is in places where we would not naturally expect prosodic boundaries at all, such as *look* ('I *look* into the chasms') - they are isolated exceptions. Where there are many mid-tune nucleus group boundaries (for example both occurrences of *Mankind*, and *eye*) or only one boundary of either kind (including for example *blind, look* and *just*) we also find just over half the twenty-three ambiguous boundaries. Hence at the extremes of the incidence of mid-tune nucleus group boundaries there is a clear differentiation of greater from lesser textual boundaries.

In the middle of the range we find more equivocation, for example it is not clear that *stones*, which is near the top of the table and is the boundary between a head noun and a postmodifying prepositional phrase, is a greater or lesser textual boundary than *thought*, which is near the bottom of the table and where the boundary is between two short noun phrase complements of the same preposition. In this midrange we also find a greater mix of tune and mid-tune nucleus group boundaries.

19.1.2 MacNeice

A similar tabulation of the incidence of mid-tune nucleus group boundaries for the MacNeice data is as follows:

More than half the readers

towering (8 readers).

Five readers

expands; *kings*.

Four readers

eye; *sometimes* (line 16).

Three readers

people (line 1); *nothing*; *commissionaire*; *dwarfs*; *midget*; *stage*; *down*; *end*; *infant*; *straddles*.

Two readers

are (line 1); *dentist*; *fire*; *So*; *magnate*; *turn*; *coffin*; *chancel*; *Yet*; *people* (line 16).

One reader

off (line 1); *size*; *entering*; *rules*; *year*; *match*; *child.*

Once again this tabulation alone reveals little pattern. For example *entering*, which has only one mid-tune nucleus group boundary, and *towering*, which has eight, both precede adverbial prepositional phrases, and have the same number of syllables. Add, however, the incidence of tune boundaries on the same lines as we did for the Keats data, and we get:

More than half the readers

towering (2 tune boundaries).

Five readers

expands (2 tune boundaries); *kings* (one tune boundary).

Four readers

sometimes (line 16 - 5 tune boundaries).

Three readers

people (line 1 - 2 tune boundaries); *nothing* (1 tune boundary); *commissionaire* (7 tune boundaries); *dwarfs* (1 tune boundary); *midget* (6 tune boundaries); *stage* (7 tune boundaries); *infant* (5 tune boundaries).

Two readers

are (line 1 - 2 tune boundaries); *dentist* (7 tune boundaries); *fire* (8 tune boundaries); *magnate* 8 tune boundaries); *coffin* (7 tune boundaries); *chancel* (8 tune boundaries); *Yet* (1 tune boundary); *people* (line 16 - 7 tune boundaries).

One reader

size (6 tune boundaries); *entering* (1 tune boundary); *rules* (1 tune boundary); *child* (8 tune boundaries).

This is a similar pattern to that found in the Keats data. Those places with many mid-line nucleus group boundaries, such as *towering*, are now, in both incidence and degree of prosodic division, next to those with only one or two of either kind of boundary, such as *entering* (which being, unlike *towering*, the adverbial of a non-finite clause, perhaps warrants a lower incidence of boundary placement). But places such as *child* (boundary between head noun and relative clause) and *chancel* (boundary between two co-ordinated predicates), which are more likely candidates for a high incidence of boundary placement have indeed only a few mid-line nucleus group boundaries but several times more tune boundaries. And in the middle of the range (three and four readers making mid-line nucleus group boundaries) there is a somewhat more even mixture of the two types of boundary; where this is not so, and

there are no tune boundaries, we are surprised to find boundaries at all, for example at *down* and *end*. (The thirteen ambiguous nucleus group boundaries are freely scattered, and are not attracted to any identifiable textual boundary type).

There is then some difference between the kind of textual boundaries which attract mainly tune boundaries and the kind which attract mainly mid-tune nucleus group boundaries. It is clear at points which attract the maximum or the minimum numbers of nucleus group boundaries, and is also manifested to some extent in the way that, as the incidence of one kind of prosodic boundary decreases that of the other kind tends to increase. But the small proportion of tunes that are subdivided into more than one nucleus group at all, and the way the same point in the text can attract a mix, in many instances a near-equal mix, of both kinds of boundary, suggest that there may well not be an absolute distinction between the two kinds of boundary. Rather than the tune and the nucleus group existing at distinct levels in a prosodic hierarchy, it may be that there is some overlap between them, that the distinction is not the sharp one of their being at two different 'levels' but one of degree, and as such only clear-cut in prototypical cases. It is not always easy to make a distinction between types of syntactic boundary which have different instances of prosodic boundary placement. For example the syntactic boundary after *expands* is between a verb and an adverbial infinitive clause, *to meet it*, while the syntactic boundary after *magnate* is between the head of a noun phrase and a postmodifying prepositional phrase, *at the turn of the stairs*. It is not obvious that either gives a greater sense of discontinuity than the other: the boundary at *expands*, which divides a clause, is arguably greater in strict syntactic terms than that at *magnate* which cuts a noun phrase; but the postmodification of *magnate* is longer than that of *expands* (six as opposed to three

syllables). Which cue to division is the stronger? There is no clear a priori answer; but *magnate* attracts eight tune boundaries and two nucleus group boundaries, whereas *expands* attracts two tune boundaries and five nucleus group boundaries. It may be that the two kinds of boundary that we find at any point can be taken together as the token of a felt need among readers to have a prosodic boundary of some kind, and that readers differ in the clarity of the boundary they supply.

19.2 Discontinuity features

Discontinuity features provide in principle a more subtle means of discriminating between strengths of boundary than does the simple distinction between the boundaries of two kinds of prosodic domain. Whereas the distinction between the domain boundaries gives just two possibilities, nucleus group and tune, the discontinuity features, temporal, pitch and segmental discontinuities, not only form a hierarchy in which, to summarise Knowles (1991:153) (see 8.2.1),

Temporal > pitch > segmental > 0

but they also have various combinatorial possibilities which include ahierarchical ones. The implication of the above hierarchy, as Knowles observes, is that where temporal discontinuity is present pitch discontinuity will also be, and where pitch discontinuity is present any possible segmental discontinuities will also be. But it is possible for a pause to occur without a pitch reset, and this possibility adds to the power of the discontinuity system when compared with the prosodic domain system, allowing momentary mid-contour pauses. The discontinuity system is in principle independent of the prosodic domain system, so that it is possible for hierarchical relations between boundaries in the text to be marked by the different combinations of

discontinuity features, even if they are not marked by a strictly layered 'prosodic hierarchy'.

The number of occurrences of each identified discontinuity feature or combination of discontinuity features occurring at the various points in the recitations where there are boundaries between tunes or mid-tune nucleus groups are given in table 20 for the Keats data and in table 21 for the MacNeice data. Table 22 shows the relative numbers of tune and mid-tune nucleus group boundaries which co-occur with each feature or combination of features. Seven different discontinuity features or combinations of features are identified. These are:

Pause and pitch discontinuity (P + Pi). 'Pause' here means an actual silence between words.

Final lengthening and pitch discontinuity (L + Pi). The lengthening of some segments close to a boundary point is another form of temporal discontinuity. It can accompany a pause, or can occur instead of one. For our purposes, then, 'pause' entails 'whether or not accompanied by final lengthening' and 'final lengthening' entails 'without pause'.

Pitch discontinuity only (Pi).

Pause only (P).

Final lengthening only (L).

Segmental discontinuities only (Seg.). Segmental discontinuities do not always have the opportunity to occur, for example if the last segment before a boundary is a vowel there is no potential for devoicing. This means that tabulating the incidence of segmental discontinuities in combinations of discontinuity features gives little useful additional information. I do, however, record here those places where segmental discontinuities are the only indicator of discontinuity.

No audible discontinuity features (0). These are places which are audible as prosodic boundaries but have none of the discontinuity features above.

We find that both tune and mid-tune nucleus group boundaries can be found with almost every combination of discontinuity features; that there is no one-to-one association between the discontinuity system and the prosodic domain system. On the evidence of the raw figures it might seem nonetheless that in both sets of data there is a crossover point at which combinations of discontinuity features mainly associated with tune boundaries give way to those mainly associated with nucleus group boundaries, this changeover taking place in the Keats data when we reach final lengthening only and in the MacNeice data when we reach pause only. This is literally true, and if it were taken at face value it would suggest that the discontinuity system is the slave of the prosodic domain system, and divides sharply in order to reinforce a sense of a hierarchy in the domain system.

Table 20 - Keats: discontinuity features

	P+Pi	L + Pi	Pi	P	L	Seg	0
lesson,						6	
Muse,	4	2		2	1		
loud/		5		1	2		
Nevis,	8		1				
blind		2			1		
mist!/	9						
look					1		
chasms,	7	1		1			
shroud/		1					
Vaporous	3		5				
them;	9						
just					1		
much				1	3		
wist/	1		3		1		4
Mankind		2			2		2
Hell.	9						
look				1			
o'erhead,/	7		1	1			
there		1			1		
mist;	8			1			
much/	2	2	1				4
Mankind		1			2	1	1
tell					2		
Heaven.	9						
Mist					2		
spread/			3	1	1	2	
earth,	7			2			
me -	7			2			
such,/	7	1	1				
so		1					
vague		6	1		1		1
sight	1						2
himself./	9						
Here		1				1	1
stones			4		1	2	1
feet -/	9						
much			1				
know,	5		1	1	1		1
that,	6			1			
elf./	7		1	1			
them,	9						
all					1		
eye		1			5		
meet/	1	2	2	2	1		1
mist				2	2		
crag,	7			2			
height./	8			1			
world		1			2		
thought	7			1			1

Table 21 - MacNeice: discontinuity features

	P + Pi	L + Pi	Pi	P	L	Seg	0
further-off	1						
people	3	1		1			
are		3		1			
smaller.	10						
Grandparents./	8	1	1				
heroes	4	2	4				
Bantu/	8		2				
nothing			1	2	1		
size		4	3				
tax-collector/	9		1				
dentist	2	3	3		1		
fire	3	3	3		1		
uvula.//	10						
So					2		
commissionaire	1	5	3				1
larger/	6		3				
magnate	1	2	6				1
turn		1	1				
stairs/	10						
coffin	6		3				
entering		1	1				
door/	8		2				
Screens		2					
chancel	7		3				
dwarfs		2			2		
altar.//	10						
Yet	1			1			
sometimes	6	1	3				
rules		1	1				
perspective/	9		1				
eye		4					
zooms.	8		1	1			
midget/	2	2	4				1
Expands		4	1		2		
(to meet) it.	7		3				
stage/	2	5	1			2	
kings		6					
go	1						
towering	3	4	3				
flies://	10						
down		1			2		
end		1			2		
queue	7	2			1		
infant/	1	2	4	1			
year				1			
Thousand	5	2	3				
straddles		1			2		
world/	7	3					
match							1
child	2	6			1		
yourself./	10						
people	6		1	2			
are	1						
sometimes	4	3	1	1			

Table 22 - Distribution of prosodic boundaries among discontinuity features

	Keats			MacNeice		
	Tunes	**N. grps**	**Ratio**	**Tunes**	**N. grps**	**Ratio**
P + Pi	164	2	82:1	196	3	65.33:1
L + Pi	23	7	3.29:1	50	28	1.79:1
Pi	20	5	4:1	44	23	1.91:1
P	15	9	1.67:1	4	7	1:1.75
L	4	30	1:7.5	2	15	1:7.5
Seg.	0	12	n/a	0	2	n/a
0	1	18	1:18	0	4	n/a

We should, however, bear in mind the fact that in the corpus as a whole tune boundaries outnumber those nucleus group boundaries which are not also tune boundaries by a ratio of 2.73:1 for the Keats data and 3.69:1 for the MacNeice data; most tunes are unsubdivided. We would therefore expect tune boundaries to predominate for any combination of discontinuity features; any pattern would be found in the precise extent to which they do so. If we examine the ratio of one domain boundary type to another for each combination of discontinuities we find that for both poems it is the combination of pause and pitch discontinuity that is very heavily dominated by tune boundaries. Below that in the discontinuity hierarchy the dominance is much less heavy. In the Keats data the ratio of tune to nucleus group boundaries for both length + pitch and pitch only comes much closer to the aggregate ratio, while in the MacNeice data it drops some way below the aggregate ratio (and below the aggregate for the Keats data, which is lower than that for MacNeice). This suggests that the discontinuity system cuts across the domain system far more than the raw figures show, although the combination of pause and pitch discontinuity is near-enough unequivocally associated with tune boundaries; even this, however, may be a case of two systems co-ordinating their efforts, so to speak, rather than one system controlling the other.

19.2.1 The operation of the discontinuity system

19.2.1.1 Keats

The combination of pause and pitch discontinuity has its highest incidences where we would expect: at major syntactic boundaries such as sentence and major clause boundaries. There are also high incidences at places which are slightly lesser syntactic boundaries than this but which have some discoursal reason for marked discontinuity, such as *Nevis*, where fairly elaborate postmodification is followed by yet more postmodification, *elf*, which ends an interpolated adverbial, and *thought*, which precedes a noun phrase which extends the *not only... but...* construction and also ends the poem. Lower incidences are found at smaller syntactic boundaries such as *Vaporous* and *meet* (subject/predicate divides) and *wist* (verb/object).

These syntactic boundaries turn up more in the next combinations down in the hierarchy: length + pitch and pitch only, of which they are more typical. Those boundaries which attract only pitch discontinuity constitute the midrange syntactically. They include the cases just mentioned, and also for example four occurrences at *stones*, which precedes the adverbial of a clause. Lengthening + pitch , on the other hand, is a combination of discontinuities less easy to characterise as co-occurring with a given kind of textual boundary. The two cases of high incidence, *vague* and *loud*, are both cases where there is much onward continuity, from subject to predicate and to elaboration of an adverbial respectively, but where there is also some non-syntactic reason to hold back: *vague* completes the parallelism *even such/ Even so*

vague, and *loud* comes immediately before a line boundary. Temporal discontinuity in these cases is held back from being manifested as an actual silence. But in these and the cases with lower incidence the same textual boundaries tend to attract combinations of discontinuities from right across the discontinuity hierarchy. In particular *Muse*, which ends a main clause, is represented in four of the seven categories.

Pause only and lengthening only are options used by some readers where there is a balance of continuity and discontinuity; where, although there is a case for providing a boundary, there is also a strong sense of forward movement. In such cases the temporal discontinuity marks the boundary, and the absence of pitch discontinuity marks the forward movement. There are, however, few of either kind in any one place, with the exception of the five occurrences of lengthening at *eye*. Those places that do attract at least one instance of temporal discontinuity alone usually attract more instances of other combinations of discontinuities: if this device is an appropriate one for the places it is used, it is not an indispensable one. Places that attract some occurrences of pause only include *know* (line 11) which ends the cataphoric reference *Thus much I know* - there is a sense of forward movement to the elaboration of the reference - and *elf* which ends the adverbial noun phrase which delays that elaboration; also *height* which precedes the *but...* which - having had the *not only...* - we expect. Those places attracting only final lengthening show greater continuity than those which attract only pause, for example both occurrences of *Mankind*, which are one-word subjects divided by this minor discontinuity from their predicates.

19.2.1.2 MacNeice

Pause + pitch discontinuity is employed by all readers for all three boundaries between stanzas, and for both the sentence boundaries which do not occur at stanza boundaries (*smaller, yourself*). Other points attracting a high incidence of this combination are the boundaries between co-ordinated constituents, for example *tax-collector*, where a complex noun phrase is about to begin; the initial adverbial which ends at *perspective* and the end of the closed-list subject *Grandparents,/ Homeric heroes and suffering Bantu*. (*Grandparents* which like *Bantu* comes at a line end, also has a high incidence; that for *heroes*, which is mid-line, is lower.) Somewhat lower incidences are found at, for example, *larger* (adjective preceding comparative clause) and *coffin* (head noun preceding postmodifying non-finite clause). In cases where only a minority of readers have pause + pitch reset the tendency is for other combinations of discontinuities to be used by most and sometimes all of the other readers, for example *heroes, sometimes* (line 9) which is the boundary between two adverbials, *dentist*, and even *infant*, which is a boundary within a noun phrase, but comes at a line boundary: the is variation between readers as to how much continuity and how much discontinuity they think appropriate.

Length + pitch discontinuity and pitch discontinuity only appear to function as a single category in the MacNeice data. The two cases with the highest incidence of length + pitch, *kings* and *child*, are not represented in the pitch only category (*kings* is not represented anywhere else in the hierarchy). But *magnate*, which has the highest incidence of pitch only, is represented in the length + pitch category, while other examples have more evenly balanced incidences of these two categories, for example

dentist, *commissionaire*, *towering*, and others are represented in both, for example *sometimes* (line 9), *rules, turn*. Moreover, it is not clear that *kings* and *child* are stronger boundaries syntactically than some which do occur in both: *commissionaire*, like *kings* is a subject/predicate boundary, and *magnate* like *child* is a head/postmodification boundary. In general these midrange syntactic boundaries are typical of both provisions of discontinuity features.

As in the Keats data the categories of pause only and length only are occasional devices used where there is a sense of forward movement as well as of a boundary; and again length only is consistent with a greater degree of continuity than pause only. For example *Yet* forms part of the phrase *Yet sometimes*, but also itself embodies the turning point of the poem; and although *zooms* forms the boundary between two co-ordinated clauses, those clauses form the items in a list - there is a forward movement through the items. Length only is used for boundaries between the constituents of one clause, for example *dwarfs* (verb divided from object), *Expands* (verb divided from adverbial); sometimes even this slight prosodic discontinuity is unexpected, for example *down* and *end* which are both lengthened by the same two readers, Readers 15 and 18, in the single phrase *And down at the end of a queue.*

The question of what categories of textual boundaries attract particular combinations of prosodic discontinuity features could be explored at greater length than is possible here. It would appear that there are broad categories of textual boundary strength which are determined partly by syntax and partly by such factors as the provision of line boundaries, rhetorical structure and simply the length of constituents (The last consideration is built into the phrasing systems devised by

Mitchell (1970) and Golomb (1977), who both measure syntactic constituents by the number of syllables they contain). But even the initial examination of the matter we have made here suggests that discontinuity features form a more sharply defined prosodic hierarchy than any based on prosodic domains. In the next chapter I look again at the way prosodic domains are no more than partially separated as types, this time focussing not on their functions, but on the physical shape of the patterns formed by the grouping together of prosodic features.

19.3 A note on ambiguous boundaries

An *ambiguous boundary* (see 8.3.1) is a point in a recitation at which it is not possible to be certain whether a nucleus group boundary occurs or not. If we look at what actually happens at ambiguous boundaries in terms of discontinuity features we find the following:

Keats

There are 23 ambiguous boundaries. Of these:

14 (60.9%) have only final lengthening;

3 have no audible discontinuity features;

2 have only segmental discontinuities;

1 has final lengthening and segmental;

1 has pitch reset only;

1 has lengthening + reset

1 has only pause.

MacNeice

There are 13 ambiguous boundaries.

10 (76.9%) have only final lengthening;

2 have no audible discontinuity features;

1 has final lengthening + pitch reset.

It is clear that ambiguity is most readily occurs when final lengthening occurs on its own, and it is not difficult to see why this is. Final lengthening lacks the clarity of a pause which, being more easily perceptible, can also signal a boundary more easily than can final lengthening when it occurs alone, unaccompanied by a pitch reset. And when final lengthening is unaccompanied by a pitch reset there is a conflict of cues, the lengthening itself (such as it is) signalling discontinuity, and the pitch contour continuity. Apart from the great majority of ambiguous boundaries which have only final lengthening most of the remainder have either no audible discontinuity features or only segmental features, only the barest indication of discontinuity.

There are, however, four exceptions. Three of these have a pitch discontinuity, with or without final lengthening: Reader 9's *spread*, Reader 3's *Here* and Reader 11's *kings*. The reason for the ambiguity appears to be that in all of these the pitch discontinuity takes the form of a level tone on the syllable immediately before the putative boundary, followed by a downstep to the initiation point of the next syllable, pitch remaining level after this downstep for at least two syllables. A drop away from a level tone does constitute an interruption of the trend of the pitch contour, which is

the definition of a pitch discontinuity, but it is not the more typical pitch discontinuity of a jump up to an onset following a fall; it is unclear, as it would not be in such a more typical case, whether the reader intends the interruption in the contour's trend to signal a boundary.

The fourth exception is Reader 4's *look* (line 5: *I look o'erhead*), which has a pause. The probable reason for the ambiguity here is partly that the pause is unaccompanied by a pitch discontinuity, so that the cues to a boundary conflict. But as I argued above when in such a conflict the temporal discontinuity is a pause this need not result in ambiguity. A more important reason is likely to be that this conflict of cues occurs in a place where we do not expect a prosodic boundary anyway - between a verb, and a single adverb that ends the clause: it is at the rapidly-following clause end that we expect a boundary. In such a case the more definite temporal discontinuity of a pause actually reinforces the ambiguity: where we do not expect a boundary, and where there are no other cues to discontinuity, we might ignore lengthening; a pause we cannot ignore, but that it signals a boundary in such a place we cannot quite credit.

What the foregoing analysis shows is the need for further research on the ways discontinuity features operate, the circumstances in which they cue boundaries, or not. It is an advance to have gone beyond the abstraction of the tone group boundary, to be able to distinguish between the end of a prosodic domain and the discontinuity features that occur there, and to isolate and label separately the different discontinuity features. Nonetheless there are cases which are not clearly the end of a pitch contour or rhythmic grouping, where only the occurrence of discontinuity features raises the

possibility of there being a boundary at all, and where it would be preferable not to have to rely on stop-gap labels like 'ambiguous boundary'.

Chapter 20

The elements of prosodic grouping

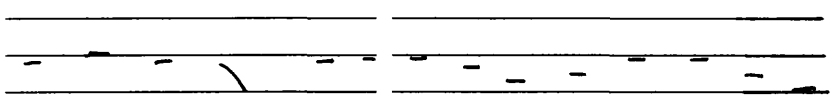
Previous sections have dealt with the physical forms of the prosodic patterns found in our data. In this chapter I set the scene for a better analysis of the phonological system underlying these patterns, pointing to potential improvements to the model by which we classify the different types of prosodic domain and the physical forms they take. I suggest that a future task will be to establish a few basic pitch patterns as distinctive, and to find out what those patterns' alternants are and what circumstances give rise to their physical variation.

20.1 The differentiation of the tune and the nucleus group

It appears that rhythmic and pitch-pattern groupings do not have a strictly hierarchical relationship even though tunes are sometimes composed of more than one nucleus group. The purpose of this section is to suggest that it is also merely a matter of practical convenience to have a single chain of rhythmic groupings and a single chain of pitch-pattern groupings which are entirely separate. A model of this kind has served reasonably well as a first step away from a traditional tone group based model towards separate annotation of the various prosodic variables: we have a model which is more closely descriptive of the prosodic groupings of verse recitations than previous one have been. Yet the problems of a single chain of rhythmic groupings are well enough illustrated by the fact that we have to annotate some nucleus groups as being merely putative ones because of the existence of ambiguous boundaries: it is unclear

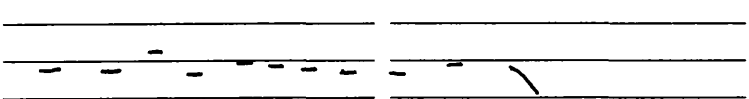
sometimes where and indeed whether one group ends and another begins. This suggests the need for a better account of the forms of rhythmic groupings than can be given by assuming a single linear structure. As to pitch patterns, the problem with assuming a single chain is essentially that to identify a set of pitch movements with a given shape as one particular kind of tune is an oversimplification.

In some cases it is easy enough to identify to identify the tune types being used; there is little dispute about it. When Reader 10 recites:



The weak eye zooms, | the distant midget/ | Expands to meet it,

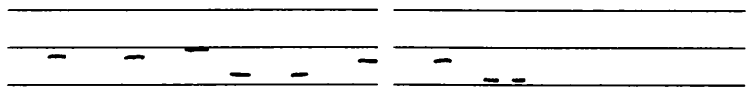
with a progression of A1a + A2a + A2a, we can see that there are three separate contours: they all reset pitch to the midline at the beginning and descend to, or nearly to, the baseline. If they are clearly separate we can label them according to the shapes of the identifiable contours. But when Reader 14 recites what is here annotated as a single A1c tune:



While the coffin entering by the west door

It has the status of a single tune because at one level it is a single contour: there is a general downward trend of pitch from the peak of the reset on *coff-* to the end of the downglide on *door*. For this reason we choose the appropriate label for the shape of the full contour. Yet the downward trend of pitch is checked by resets on *ent-* and *west*: at a lower level we could call this three gradually falling contours (one of which

would coincide with the nucleus group which ends after *coffin*) and label those according to *their* shape. On the other hand this progression of A2c and A2a made by Reader 11:



Screens the chancel | and dwarfs the altar.

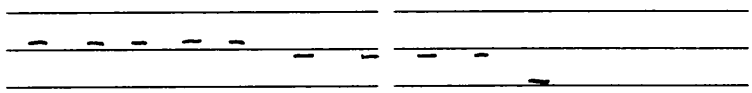
could have been construed as one tune, a single downward progression of pitch from *Screens* to *altar* checked by resets on *chan-* and *dwarfs*; considered as one contour, this has a similar shape to Reader 14's example, and could be annotated as a single A1c tune.

Why the difference in annotation between these two examples? Simply that, if we have to segment a stream of speech into a single chain of pitch patterns, we are forced to decide on the extent of those patterns; and Reader 14's example 'sounded like' one pattern while Reader 11's 'sounded like' two. What does this mean? In perceptual terms, that there was a sense of integrity about those pitch patterns which I have annotated as whole contours. It was necessary to use this gut sense if this initial, tentative analysis of pitch patterns by a new method was to be kept manageable. Reader 14's example has no intermediate pauses, but there is a pause at the end of the contour. Reader 11 has a pause as well as a pitch reset after *chancel*. Although discontinuity features are in principle separate from pitch contours, and are annotated separately here, this pause no doubt aided the perception of Reader 11's reading of this line as consisting of two separate tunes. And 'sounding separate' would in any case count for much with Reader 11, as he tends to use long tunes (for example he renders

each of lines 3, 4, 5 and 6 of this poem with a single tune): any sign of separation would make a sharp impression.

By definition A1c tunes contain pitch resets in the middle of their contour. Since these resets constitute a discontinuity in the downward trend of the contour it is relatively easy in an A1c tune to pick out what might have been - and incipiently are - separate tunes: there is a modicum of definition to their boundaries. But it is not necessary to be able to identify such subsidiary pitch patterns easily for there to be a problem with a model which assumes a single linear progression of discrete pitch patterns.

Take, for example, the A1a tune. This is defined as a gradually descending contour: a series of downsteps, or downsteps interspersed with level pitch. It is the fact that A1c tunes have and A1a tunes have not intermediate resets which distinguishes these two tune types. Since it is a smooth downward progression it might seem that an A1a tune was unarguably a single contour. At one level it is a single contour. In this A1a tune, spoken by Reader 4:



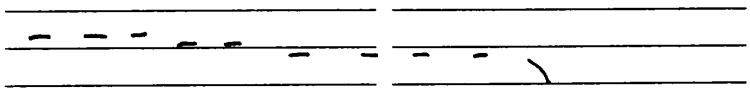
Here are the craggy stones beneath my feet -

there are downsteps on *stones* and on *feet*. There are no intermediate resets. But at the level of rhythmic grouping three nucleus groups are identifiable, divided thus:

Here | are the craggy stones | beneath my feet -

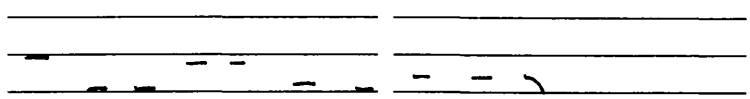
It is quite likely that, in the concatenation of these nucleus groups, a sandhi rule has operated to convert the nuclei on *Here* and *stones* from falls to level tones (see Knowles 1984:231) with the result that their pitch does not drop below the pitch of the following onsets on *crag-* and *-neath* respectively, so that the latter are in context not reset. If it is the process of concatenation which has thus deprived these onsets of pitch obtrusion it follows that these nucleus groups, although the nucleus group is defined for our purposes as a purely rhythmic grouping, have their own associated pitch contours which here are disguised somewhat. (Remember that the majority of tunes are co-extensive with a single nucleus group.) If they are disguised for the purpose of concatenation this justifies our annotation of a single *pitch* contour here; but the pitch contours associated with each nucleus group are no more than submerged; in an A1c tune in this context they would be clearly visible.

Whether or not the pitch patterns associated with nucleus groups are absorbed into larger patterns is a matter of degree. There is no absolute distinction between the pattern exhibited by Reader 4 here and, on the one hand, Reader 2's single nucleus group extending over the whole of the same line, which she also recites with an A1a tune:



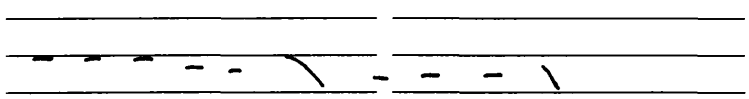
Here are the craggy stones beneath my feet -

and on the other hand, Reader 3's rendering of the line with, like Reader 4, nucleus group divisions after *Here* and *stones*, but with an A1c tune:



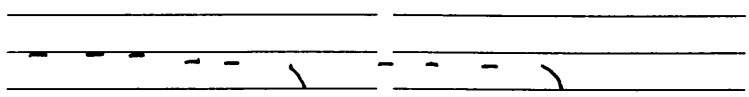
Here are the craggy stones beneath my feet -

In this tune the separate pitch patterns associated with the nucleus groups are less disguised, because their onsets are marked by pitch resets on *crag-* and *-neath*. Again, there is no absolute distinction between this and Reader 1's use of two tunes, an A1c followed by an A2c:



Here are the craggy stones | beneath my feet -

Each of these tunes is a single nucleus group. In strictly pitch-pattern terms the contour throughout the entire line could be treated as a single A1c: the reset on *-neath* is a very small one, and as an onset is clearly subordinate to the onset on *Here*; this contour could, then, be treated as a single pattern, a downward progression of pitch checked by resets on *stones* and *-neath*. The main difference between this rendering and that of Reader 3, which is annotated as a single A1c, is the extent of the fall on *stones*, which Reader 1 gives a downglide from the midline; Reader 3 has a downstep to *stones* from some way below the midline, giving it a similar pitch height to the end-point of Reader 1's glide, but it is a level tone rather than a glide. (Neither reader pauses, both having only lengthening, and devoicing of the final consonant of *stones* as their other discontinuity features here.) Then, there is only a difference of degree between Reader 1's rendition and Reader 8's clear separation of the line into two tunes, A1a + A2a:



Here are the craggy stones | beneath my feet -

where, although the reset on *-neath* is less high than that on *Here*, the fall on *stones* is to the speaker's baseline, and forms a clear end-point for the first tune.

It would be possible in principle to identify subsidiary pitch patterns right down to the lowest levels of prosodic grouping. Just as we have seen that nucleus groups have their own pitch patterns even where these are subsumed into larger contours, so accent groups would, spoken in isolation, have pitch patterns; these are modified to give a single contour when the accent groups combine into nucleus groups. Ultimately the pitch patterns which we identify are composed of the concatenated and modified pitch patterns associated with the citation forms of words. What is annotated in the present data is the most immediately salient level of pitch patterning. (In the context of metrical beating in music Lerdahl and Jackendoff (1983) call the most salient level the *tactus*.) But what the above examples show is that sometimes a lower level than this can come close to the surface. When this happens the tune type at the most salient level may be a marginal example of that type, one which would with only a very slight modification be something else, for example two tunes of different types. A nucleus group whose associated pitch movements are not annotated as a whole tune does have a melodic shape which might be the same shape as a whole tune found elsewhere in the same data; or might have been one if sandhi rules had not applied. Tunes containing more than one nucleus group derive their character from the melodic shape of the nucleus groups which compose them.

20.2 The elements of pitch patterns and their use in classifying tunes

To treat pitch patterns as a simple one-level chain of tunes is, then, an oversimplification. This oversimplification is reflected in our classification system for tunes: the use of a label such as A1a abstracts into a single annotation several facts about the behaviour of the pitch movements within the bounds of one contour. We could in principle annotate pitch patterns in a more analytical way, labelling these qualities separately, exploiting more thoroughly the capabilities the database offers us.

The classification scheme is, as I observed in 15.2, an *enumerative* classification scheme: it simply lists the pitch patterns that we have, with all their complexities. It does this in a more subtle way than have previous classifications of intonation patterns: it organises the tunes into a hierarchical structure, relating similar patterns by placing them close together in the scheme; its notation expresses these relations; it incorporates differences of degree as well as of kind. Nonetheless it is all too easy to be aware of the advances it has not made, and of a need at least to sketch out the principles on which those advances might be made in the future. In contrast to an enumerative scheme, a *faceted* classification scheme is more analytical in its approach. Rather than simply listing subjects, it starts by identifying the individual characteristics by which a subject can be divided, for example historical period. Each of these characteristics is called a *facet.* Each item is then classified according to how it is characterised with regard to each facet, for example in the case of historical period a particular century; it is when individual items are classified that the individual characteristics are synthesised in a classification that represents a complex subject. A

faceted scheme looks far more closely than does an enumerative scheme at the first principles of a subject (Rowley 1987:194).

The basic idea of faceted classification could be used in devising an improved classification system for pitch patterns. In a database of speech prosody each characteristic of pitch patterns could be stored separately, in principle. We do, in fact, already have one example of this principle in operation in our present classification scheme, in the form of the binary coding system. This stores in separate fields (see appendix) whether or not each tune possesses each of an initial rise, a fall and a final rise.

The basic pattern of each tune, then, is specified according to the criteria:

[± initial rise] [± fall] [± final rise]

This specification gives the initial upper-case letter of the tune type classification. The subdivisions of these basic tune types are currently encoded only in the classification scheme proper, not in the binary coding. There are at least two disadvantages to this.

One disadvantage is that the same phenomena have to be annotated afresh for each basic tune type. For example in A1 tunes the figure 1 indicates that the fall in pitch takes place gradually throughout the length of the contour. This is also true of B1 tunes, yet they have to annotated separately. The same quality has to be listed twice.

Another disadvantage is that the notation as it stands does not unambiguously represent the nature of each pattern, but depends on some background knowledge from the user. For example the distinction between A1 and A2 tunes is a distinction between gradual and abrupt progression of pitch. This is also the distinction between D1 and D2 tunes, but although the numerical subdivisions are identical there is the difference that A1 and A2 distinguish gradual and abrupt falls, while D1 and D2 distinguish gradual and abrupt initial rises: the same quality is a quality of two different things. On the other hand, both A2 and A4 tunes have abrupt falls. The distinction here is between abrupt falls occurring late and early in the contour, yet this different kind of distinction is made at the same level of subdivision as that between gradual and abrupt falls. The user simply has to learn all this.

A method of classification and storage more consistent in principle would be to annotate the presence or absence of every quality we might want to indicate for pitch patterns by means of a binary code, to store each quality only once, then to show the qualities of each contour by synthesising the binary codes; the order in which the codes were cited would show for each contour which quality was a property of which other quality. If, for example, we start as we start now with the basic features:

[± initial rise] [± fall] [± final rise]

we could then annotate, for each one of these three binary categories that a contour possessed, the quality [± gradual]. This would need to be done in such a way that, although the quality [± gradual] was stored only once, the annotation was linked to the

other binary codes in such a way that it was clear which of them it was a quality of, so that we could distinguish, for example between:

[+ initial rise] [+ gradual]

which would be a D1 tune, and:

[+ fall] [+ gradual]

which would be an A1 tune.

Now the annotation under [± gradual] determines what happens next. [- gradual] entails [+ abrupt]. For contours annotated [+ gradual] the next set of qualities would be ones appropriate for contours with a gradual progression of pitch, for example [± resets], which is the distinction between A1a and A1c. For contours annotated [- gradual] we would then annotate for qualities appropriate for abruptness, for example [± early], which is the distinction between A2 (late fall, i.e. [- early])and A4 ([+ early]). The case of [+ early] raises another general point. The subtypes of A4 tune, A4a and A4c, are in fact distinguished by the opposition [± resets]; it is therefore necessary to provide a route to [± resets] from [± early] as well as from [± gradual], so that [± resets] can be shown as a quality of a [+ early] contour, while still storing [± resets] in only one place. It (and other qualities as well) would, that is to say, have to be accessible as an annotation by various different kinds of contour and at several levels of subdivision while being stored only once.

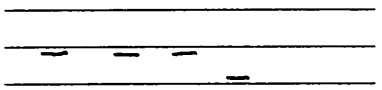
The principles on which such a scheme would be constructed are, then, that each attribute is a binary one, that each attribute is stored only once, and that it is the synthesis of attributes which indicates the relationships between them, and does so unambiguously. This is the theory. The problem for the future is finding a practical means to do all this with the databases we actually use. Two problems in particular need a solution. The first is how to join the annotations for the various attributes in a way that preserves the integrity of the data structure, that retrieves precisely what we want and does not simply lead to confusion, bearing in mind that the same stored data may be called upon more than once as an attribute of the same contour but at different levels: we need to be sure that what is an attribute of what in any individual case is clearly defined in the database itself; otherwise the object of devising this data structure is defeated. The second problem is to devise a suitable notation. We need to be able to refer to tune types in a way which is concise, expressive and easy to remember. The danger is that a series of binary codes for different attributes, retrieved and brought together to symbolise the shape of a whole contour will not do this. The solution to this problem may lie in the design of a suitable front end which will translate the binary codes into a more readable format for human users.

20.3 Basic tunes and processes

Our hierarchical classification of tune types is based on a few skeletal patterns (represented by the binary codings) which are subclassified according to other attributes which elaborate the skeletal patterns. The subtypes identified are simply descriptive of the shapes of all the pitch patterns to be found in our corpus, but the question arises of whether there are as many *distinctive types* of pitch patterns as there

are *physical variations*. And even if all the identifiable contours are distinctive, it may be that there are relatively few basic contours, and that other variations are the result of *processes* which act on the basic patterns. If this is so it would be compatible with a hierarchical model such as we have: the lower levels of the hierarchy - the subtypes - would be the results of the operation of processes. This model would be more economical than one which postulates a large number of distinctive individual patterns: some of the closer similarities examined in chapter 17 may well fall short of echo simply by the random chance of one or two different pitch movements, and the patterns not be distinctively different at all. More work, evidently, should be done on which differences between pitch patterns are differences of distinctive underlying patterns, and which are merely physically different, freely varying pitch-pattern allophones. I here briefly set out a possible pattern-and-process model.

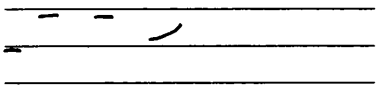
If we wanted to choose one pitch contour which was a single prototypical contour for all English speech, a default pattern such that more marked patterns could be characterised by the form and quantity of their variation from it, it would presumably be the A2a tune, a high level onset followed by pitch remaining high until an end fall, for example Reader 12's



Screens the chancel

The prototypical onset consists of a reset to a relatively high pitch, and the prototypical nucleus is a fall; between the two, unless there is some reason to do otherwise, pitch remains high by default since this requires no additional effort. The

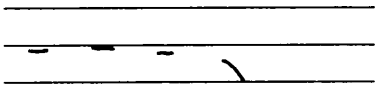
most basic variation of this pattern would be to have a rise at the end rather than a fall - the B2a tune - as in Reader 2's



I look o'erhead

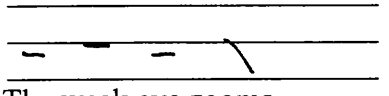
Various processes can then be seen as operating on these basic contours to give the other, less prototypical pitch patterns.

For example the shorter A1a tunes, those containing of only one nucleus group, would on this view result from the imposition of downstepping on the basic contour. Reader 10 does this in:



The weak eye zooms

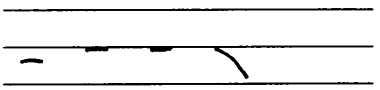
Instead of pitch remaining at the level of the onset until the end fall, there is a downstep on *eye* and another from there to the initiation point of the fall on *zooms*. If, however, after a downstep on *eye*, pitch resets to the initiation point of the fall then we have a short A1c tune, as Reader 18 has:



The weak eye zooms

These downsteps and resets may be the result of the pitch contour having to be mapped onto successive accented syllables: the accents are conveyed in part by the

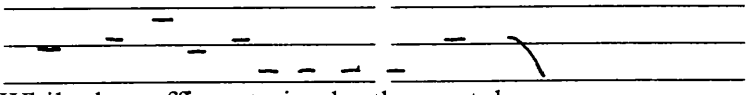
pitch movements. It is surely significant that Reader 17, who deaccents *eye* has an A2a tune; *eye* comes in the middle of a level section:



The weak eye zooms

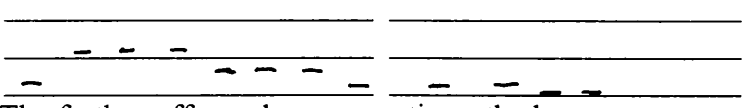
If correct, this interpretation is evidence for a model of basic contours being modified by additional processes - here the basic contour is modified when mapped onto a particular configuration of accents; although it is possible for accented syllables to occur in the middle of a level section of a contour and for downsteps to occur which are not motivated by the accentual pattern.

As was argued in 20.1 the longer A1c and A1a tunes - those that extend over more than one nucleus group - result from the concatenation of shorter contours. The general trend of pitch throughout such tunes is downward; and it is often the case that the shorter contours of which they are composed also slope downwards. When this is so then presumably the shorter contours have been subject to the downstepping process. To form a long A1c tune the individual contours, downstepped or not, are then concatenated, as in Reader 19's



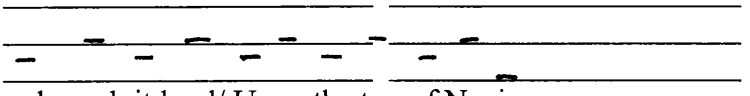
While the coffin entering by the west door

and to form a long A1a tune they are concatenated, and subjected to the sandhi rule that depresses all onsets but the first, as in Reader 11's



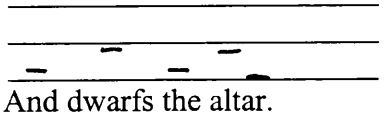
The further-off people are sometimes the larger.

Other tune types can also be related to the A2a/B2a prototype by postulating the operation of a process. The A2b tune, with its rocking head, may map onto an accentual pattern which encourages a series of resets for frequent accents. In accentual-syllabic verse this may be a pattern of alternating accented (or at any rate pitch prominent) and unaccented syllables which reflects the metre, as in Reader 3's



and speak it loud/ Upon the top of Nevis

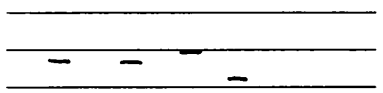
What would by default have been a level head is made to zigzag by this alternation. It is interesting that even in metrical verse this is not a common effect; that most pitch patterns operate independently of the metre as exponents of the syntactic and semantic structures of poems, providing a system of recurrence that counteracts the metre. The shorter A2b tunes, may simply be, like the shorter A1c tunes, a downstep followed by a reset for an accent (see 15.3.1) but, unlike the shorter A1c tunes, without an overall downward slope. An example of such an A2b is Reader 14's



And dwarfs the altar.

(note that the downstep here takes place on the unaccented *the*). The effect of high onset + downstep + reset gives the tune its rocking pattern.

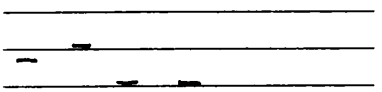
An A2c tune has a high level head followed by a further slight reset to the initiation point of a final fall, as in Reader 11's



Screens the chancel

This is only a slight variation from an A2a, and the differentiation between the two raises with especial acuity the question of whether there is really a functional differentiation here. An A2c tune seems to be an A2a in essence; the additional process it has undergone is no more than a slight widening of the final fall, perhaps intended to intensify it (cf. the traditional high fall vs. low fall distinction), or perhaps merely the result of random chance.

In A4, D and E tunes the pattern of the prototype is modified by the advancement or delay of a feature that takes place in the A2a prototype. An A4 tune has a fall very soon after the onset, the rest of the contour remaining low. This we could see as modification of the prototype by having what would normally be an end fall occurring shortly after the beginning of the contour; the pitch of the rest of the contour is then low by default since the early fall has caused us to arrive at low pitch and there is no reason to modify this. In Reader 3's

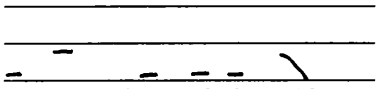


and mental might

The onset on *men-* has the usual reset to high pitch at its initiation, but it is a fall, more typical of an end-falling nucleus. Pitch remains low on the unstressed syllable of

mental and on the actual nucleus on *might*. In semantic terms the fall on *men-* appears to be a contrastive accent, contrasting *mental* might with the literal, physical might of the *mist and crag... on this height*. But as a pitch pattern this tune is identical to an A2a *except* that its fall occurs early rather than late. That this difference occurs in the marked case of contrastive accent adds weight to the theory that it is A2a that is the default pattern, and that A4 tunes are default patterns modified by advancement of the fall, rather than wholly separate pitch pattern types.

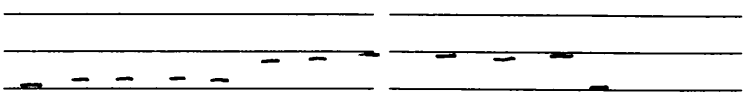
The A4 example just given, however, was an A4a, in which pitch remains low following the early fall. In an A4c tune there is an end fall as well as an early one; this end fall begins with a reset to its initiation point. Reader 8 uses an A4c in:



is man's sight of himself.

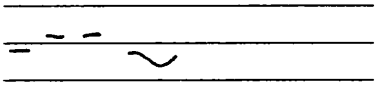
In this pattern the default of pitch remaining low after the initial fall is departed from, and both *man's* and *-self* are given accents of similar pitch prominence. The initial fall is an advancement of the fall of the general default A2a contour; this forms a default version of the A4 tune, which a second process - a resetting of pitch - further modifies.

In A4 tunes a feature is advanced: the normal end fall is placed near the beginning of the contour. In D tunes a feature is retracted: D tunes begin with a rise from a low onset; the reset to high pitch which is a feature of the prototypical onset is delayed until the peak reached by the rise from the low onset. In Reader 15's D1 tune on:



The further-off people are sometimes the larger.

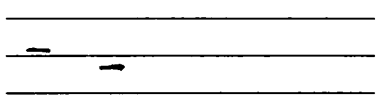
the onset, on *fur-*, is very low; pitch does not begin to rise until *people*, and does not reach a peak until *sometimes*; it is this peak which is more typically onset-like than the low-pitched *further*. If *further* had had the reset that we might more typically expect, pitch would probably have remained high until the fall on *larger*, and the pattern would have been A2a. E tunes also delay the peak in this way. The difference between them and D tunes is simply that E tunes have an end rise; they are derived from the B2a prototype rather than the A2a. In Reader 2's



Even so vague

The accented syllable *Ev-* realises the onset, but is low-pitched and followed by an abrupt upstep; it is the unaccented syllables *-en so* that carry the delayed peak. The nucleus on *vague* is a fall-rise.

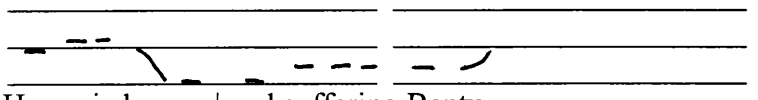
Two tune types, A3 and C2, we have treated throughout as contextual variants. An A3 tune consists only of a fall, and a C2 only of a rise, or at most they are preceded by a prehead. In both cases they are used where a speaker wishes to place in a separate tune a textual segment too short for a head to be included. The head of the prototypical contours is perforce deleted. However, A3 tunes do mostly have an initial reset. We see this in Reader 17's



sometimes

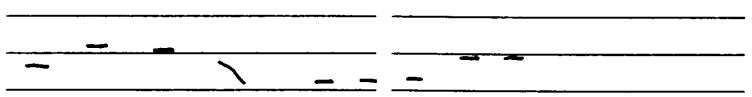
This consists only of a falling nucleus. But there is a reset to the initiation point of that fall; the nucleus takes on, in the absence of an onset, this characteristic which is more typically associated with the onset.

The relationship of C1 tunes to the contour prototypes is somewhat problematic. A C1 tune consists of a low level head and an end rise. Does this relate to a prototype which begins with a reset to high pitch and, if it has an end rise at all, precedes it with a drop in pitch to a low initiation point of that rise, and if so how? For some C1 tunes there is a reasonably clear answer to this question. Reader 15 uses a C1 tune in the second of this pair of tunes:



Homeric heroes | and suffering Bantu

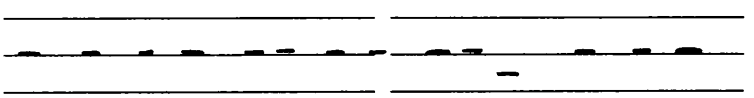
Considered on its own the C1 tune does indeed have a low head: the pitch is below the midline, and it is lower than the contour's own end-point. But in the context of the preceding A tune, whose end fall drops to the speaker's baseline, even this low head is *relatively* high: pitch is reset on the onset on *suff-*. Hence we can say that this C1 tune does have the onset of the B2a prototype; the prototype is modified by the deletion of the drop in pitch before the end rise. There is, however, no reset on the onset (*dis-*) of the C1 that is the second in this pair of tunes from Reader 11:



The weak eye zooms, | the distant midget

dis- is at the same pitch as the end-point of the final fall of the preceding tune, on *zooms*. Here a better association with the prototype is in terms of a delayed peak, as in D and E tunes: the peak does not take place until the final upstep, to *midget*.

For F tunes a similar association with the prototypes is arguable as for C1 tunes. F tunes consist of a single level of pitch throughout their contour. We have seen (17.3.2/ 18.1.3) that F tunes can 'pair' both tunes that end in falls and those that end in rises without sounding markedly different from either. It may be, then that F tunes modify the prototype by deleting the end-fall or end-rise, depending on what type of tune the F tune is to be associated with. Why delete? Possibly this is a *relaxation* of effort; a failure to add a pitch glide or movement where it is not absolutely necessary. The absolute height at which the uninterrupted level contour of an F tune takes place is variable, and an F tune can in context have an initial reset. In this pair of tunes from Reader 9:



and speak it loud/ Upon the top of Nevis, | blind in mist!

the second, F, tune has its onset on *blind*; there is a jump-up to *blind* following the end-fall of the previous tune on *Nevis*; the F tune merely lacks its own final fall or rise.

This rapid survey of the various pitch patterns clearly needs to be built on before a thoroughgoing theory of pitch pattern types can be produced which can say firmly which patterns are basic patterns in themselves and which are variations on other basic patterns. It is clear, however, that the questions are worth asking; we cannot leave the classification of pitch patterns set out in chapter 15 as a given, however useful it may have been in the present work and however much of an improvement on previous methods of classification it may be. In particular we need to investigate thoroughly the effects on pitch patterns of their having to map onto accentual patterns. Accentuation is signalled by pitch obtrusion; to this extent pitch and accentuation are bound together. But this does not mean that any particular pitch movement need be chosen to signal an accent: the actual pitch patterns have some independence, although as we have seen a pitch movement which contributes to the overall shape of a contour may be made for the purpose of accentuation. Yet accented syllables do not need to have pitch obtrusion: even a high onset - which when it realises a reset at the beginning of a contour is perhaps the prototype of pitch obtrusion - may be preceded by a high prehead, so that it is the prehead that carries the obtrusion of the initial reset, pitch then remaining level through the onset and possibly beyond. Moreover, accented syllables that lie between an onset and a nucleus may simply lie in the direct line of the trend of the pitch contour, without altering - even momentarily - that trend. This can also be true even of a nucleus, as when a steadily falling head is followed by a low falling nucleus. In all these cases the pitch contour is the same as it would have been if these syllables had not been accented. On the other hand, the trend of the pitch contour can be altered on unaccented syllables. When the pitch contour maps onto accented syllables the latter cause it to do so in particular ways; if it maps onto unaccented syllables it does so in rather different ways (cf. the observation of Bolinger

(1986:256) that the shape of contours depends on the behaviour of unaccented syllables as well as of accent profiles - see 14.1.2). This mapping clearly affects the form of the pitch contour, and so potentially the tune type, although contours which differ for this reason may be the same underlying pattern; this in its turn may affect whether a textual parallelism is flagged by echo or similarity. But how accented and unaccented syllables affect the pitch contour, and what the difference between their effects is, are not yet understood. It is this understanding that we need now to find.

Chapter 21

Conclusion

21.1 The overriding claims of the thesis

We have established our own hierarchy of prosodic grouping in verse, a far more fluid one than the strict layer hypothesis would suggest. We have the groupings of, in ascending order, accent group (7.2), nucleus group (8.3.1) and tune (15.2). Higher still we have identified relationships of likeness which bind separate tunes together and which can in recitation bind together the textual segments which are co-extensive with those tunes (chapters 16-18). More vaguely we can say that the recurrence of similar pitch patterns throughout a recitation binds the whole text together (15.4.1). Our hierarchy is not strictly layered: the hierarchical relationship between the accent group and the nucleus group is well-enough defined; that between the nucleus group and the tune less so, and our results suggest that this is bound to be so, the relationship between them being a fluid one which, giving a reciter an extremely flexible instrument whose use is unpredictable, strengthens the sense of infinite possibility in prosodic structure at this level. Alongside this fluid and intermittent hierarchy there is the system of discontinuity features which cross-cuts it.

21.2 Further work

The kind of analysis established by this thesis needs to be extended. It must be applied to a wider corpus of poetry, containing verse of a greater variety of forms and

from a greater variety of historical periods; and it must be applied to a deeper corpus, containing recitations by a far greater number of readers. All this would establish a) whether my findings are generally valid, and b) to what extent, if they are valid in essence, they vary in detail.

The scope of the investigation itself should be extended in two directions. The auditorily based rhythmic and pitch-pattern domains should be investigated instrumentally, and mapped onto the speech waveform. This would in particular provide more detailed evidence for the grounds of resemblance and difference between pitch patterns, allowing us to sharpen our classification of them. It would also provide information on the acoustic components of rhythmic and accentual patterns, thus reducing our reliance on abstractions such as 'onset' and 'nucleus', terms which may include a variety of prosodic phenomena: what features give us our sense of the initiation and completion of rhythmic domains?

In the other direction, it would be useful to look at readers' perceptions of what they do as well as analysing the results of their production, by using them as informants in the more direct sense of asking them about their views of the structure of the texts they recite, and comparing their answers with the prosodic structure they produce, to see if these correspond. It would also be worth asking informants about particular features they do in fact produce in their recitations, to see how far prosodic patterning provides evidence some kind of cognitive grouping structure such as Cureton postulates, but with empirical evidence for its forms.

21.3 Verse prosody: rigidity or flux?

Our findings so far suggest that the elements of verse prosody (pitch movements, discontinuity features etc.) are capable of combining to form many unpredictable patterns. Variability is of the essence in the relationship of text to prosody. There is, however, one intriguing aspect to this. It has been suggested to me (Art Graesser, private communication) that a worthwhile experiment would be to get the same readers to repeat the same poems, perhaps more than once. The interest of this would be to see whether each reader produced several different sets of patterns, so that their own readings disagreed with each other, or whether the prosody of successive readings became more and more alike, that the patterns produced gradually stabilised.

If the patterns varied widely this would suggest that readers value the multiple possibilities available for expressing even a single poem. Prosodic patterns on this view are created anew on each reading, and used to bring out these multiple possibilities; variation is of the essence. But if the patterns stabilised this would suggest that a reading of a poem is an attempt at a definitive version, and that the opportunity given by multiple readings is used to bring such a definitive version closer to perfection. Variation would provide further evidence for a fluid structure of prosodic organisation - the primitive prosodic features are combined and recombined time and again into patterns; stabilisation would be evidence for a more strictly levelled structure, in which the patterns used on any occasion were an imperfect expression of abstract cognitive forms.

The evidence of our present data suggests that fluidity is the more likely. And even if the patterns tended to stabilise, it is likely that readers would still show some chance variation between successive readings. In any case, whether there was agreement or disagreement between successive readings by the same reader, it seems highly probable that there would still be disagreement between readers. The prosodic variety of the readings in the present data shows that a poetic text is a foundation for many possibilities: we cannot predict in advance of a recitation what is going to happen in it; readers will have their own ways of negotiating rhythmic tension in the text. We now have a theoretical model for investigating the manifestations of this tension and their underlying causes.

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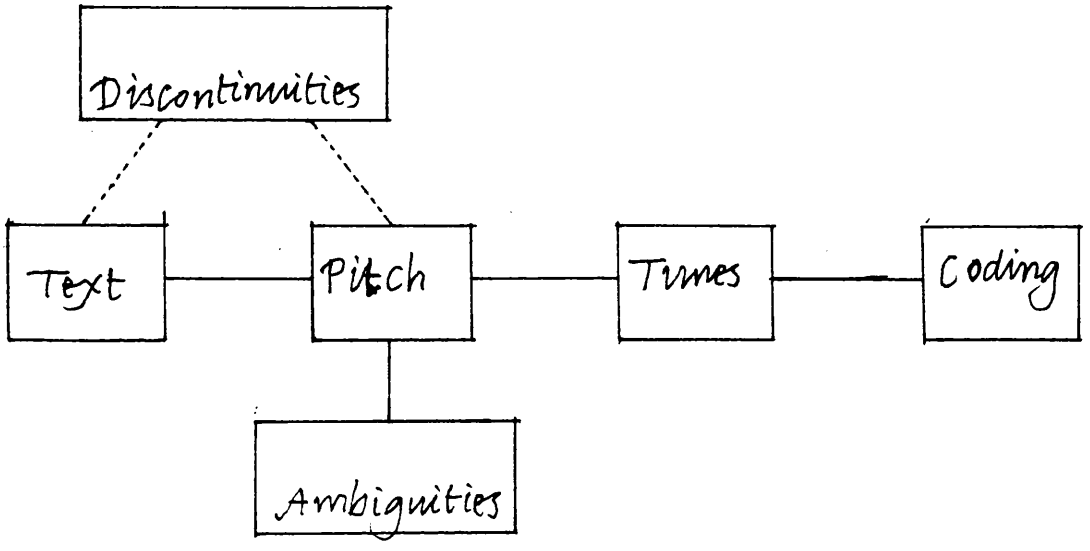
Appendix:
The structure of the database

In this appendix I give a brief account first of the overall structure of the database used in the investigation then of its individual tables, before reproducing the tables themselves. Information on relational databases in general is given in 5.1.1. The database of recitations used in this work actually consists of two databases, one for each poem. Each consists of six tables as follows: *Text* contains the text of the poem and any prosodic information that is a property of the text alone, for example lexical stress, metre and accent groups. *Discontinuities* contains records for the prosodic discontinuity features made by each reader. *Pitch* contains details of prosodic features produced by each reader in the realm of individual pitch movements associated with syllables: mainly the movements themselves, accentual patterns and the extent of prosodic groupings. *Ambiguities* records those nucleus groups whose status is uncertain because of uncertainty over where boundaries fall. *Tunes* records the whole pitch contours produced by each reader. *Coding* records the fundamental patterns underlying each tune type. The tables are joined together as shown below: (*Discontinuities* is joined to *Text* or to *Pitch* depending on the nature of the query being undertaken.)



The tables.

1 Text

In *Text* the record level is the syllable (that is, each record contains one, and only one, syllable and its attributes). The fields are:

ID This is the primary key for the table, of datatype Counter. Each number uniquely identifies a syllable of the poem.

Syllable Datatype Text. Simply records the syllables themselves.

Stress Datatype Text. Records of each syllables whether or not it is lexically stressed. / = stressed, x = unstressed.

Reduc. Datatype Text. Records whether or not, at the level of the speech rhythm default, a syllable is normally strong (s) or weak (w) (see 7.1.1.1).

Linestatus Datatype text. Annotates line openings and ends. The initial syllable in each line is annotated # and the final syllable in each line is annotated /. All other syllables are null (the field is empty).

Scan Datatype text. This field records the metre for the Keats data. Each syllable is annotated as ictus (I) or remiss (R). This is done automatically by a program in Access Basic which, using the data stored in the other fields, assigns ictus and remiss alternately,

working backwards from the end of each line, but reverses the order of annotation in the case of lexical reversals (see 7.1.1.2). This field does not exist in the MacNeice database, because the MacNeice poem does not have an accentual-syllabic metre.

Boundaries Datatype text. Records the accent group structure (see 7.2). For each syllable gives the largest boundary out of syllable ($), word (#) and accent group (/) which co-occurs with the end of that syllable.

2 Discontinuities

In *Discontinuities* the record level is again the syllable: each record gives the discontinuity features made by one reader and associated with a given syllable.

Reader Datatype number. Records which reader is producing the material in question.

Syllable key Datatype number. Associates a bundle of discontinuity features with the syllable in *Text* having the corresponding number in the ID field. When *Discontinuities* is joined to *Text* this is the ground of the join. The Reader and Syllable key fields together constitute the primary key for *Discontinuities*.

Pause Datatype text. / = pause. Where no pause exists the field is null. This field is a text rather than a yes/no field because, although it has not been done in the present work it may be desirable in the future to

measure pauses rather than merely to record their presence or absence. If this is done, a text file allows durations to be stored with minimum reconstruction of the field.

Length Datatype yes/no. Simply records presence or absence of final lengthening.

Pitch reset Datatype number. If there is no reset this field will be null. If there is a reset, then the discontinuity is associated with the syllable whose record this is, but the reset actually takes place after the discontinuity, on the syllable whose number appears in this field.

Segmental Datatype yes/no.

NG Bounds. and **Tune Bounds.** Both yes/no. Record whether or not the bundle of discontinuity features co-occurs with, respectively, a nucleus group or tune boundary.

Obviously syllables which have no discontinuity features associated with them, and which do not occur at prosodic boundaries have no records in this table. But where prosodic boundaries occur which have no audible discontinuity features the relevant syllable does have a record, but all discontinuity features are annotated as absent.

3 Pitch

The record level here is the pitch movement rather than the syllable: in the case of glides more than one pitch movement is associated with a syllable.

Pitch ID Datatype counter. This is the primary key for the table. The combination of Reader and Syllable key could not be used because the existence of glides (see above) means that it is not a unique identifier. Without the Pitch ID field, then, the sort order of records could not be controlled for glides, and a fall could be mistaken for a rise and vice versa.

Reader and **Syllable key**, both datatype number, operate in the same way as their equivalents in *Discontinuities*. When the latter is joined to *Pitch* these are the joined fields.

Level Datatype text. Record which of the five pitch levels a syllable is spoken at (see 15.1). The letters T, H, M, L and B stand for Top, High, Mid, Low and Base respectively.

Movement Datatype text. Records of each pitch movement whether, with respect to its predecessor it moves up (U), down (D) or remains at the same pitch (R). The initial pitch of each reading is annotated #. This system is essentially that devised by Parsons (1975) to allow non-musicians to look up musical themes in a directory. The combination of pitch level and pitch movement allows us to identify the nature of each movement even when it is a movement within one

of the broad levels L or H.

Accent Datatype text. Records accentual patterns. / indicates a pitch accent, and ` a rhythmical beat. For unaccented syllables the field is null.

NG No and **Tune No** Both datatype number. The nucleus groups and tunes produced by each reader are numbered consecutively; for each pitch movement is recorded the number of the nucleus group and tune that pitch movement belongs to. Thus the extent of each group is recorded. The numbers are reader-specific, e.g. the first group of each kind produced by each reader is always No. 1.

4 Ambiguities

This consists of just two fields, Reader and NG No, both of datatype number. The record level is the nucleus group, and the two fields together constitute the primary key. The nucleus groups listed in this table are those whose status as independent groups is uncertain because it depends on an ambiguous boundary being a boundary in fact. No more data than Reader and NG No need be stored: if we wish to examine the extent or boundaries of ambiguous groups we can ensure that only these are extracted from *Pitch* or *Discontinuities* simply by joining this table to the query.

5 Tunes

The record level is the tune. The fields are:

Reader and **Tune No**, both datatype number. The combination of the two

constitutes the primary key. They are the fields by which *Tunes* is joined to *Pitch*; pitch contours can then be mapped onto individual pitch movements.

Code and **Subdivision**, both datatype text. Between them these two fields record tune types according to the classification scheme set out in 15.2. Code records the main class (initial upper-case letter), and Subdivision the subdivisions.

6 Coding

This table records the binary coding underlying the main classes of tunes. The record level is the main class of tune. The first field, **Tune type** (datatype text) is the primary key; it lists each of the six main classes of tunes by letter. This is the field by which the table is joined to the *Tunes* table. The remaining three fields are all of datatype yes/no and record the presence or absence for each basic tune type of each of the three binary features, **Initial rise, Fall** and **Final rise**. If this table is included in a query about pitch patterns we can with a single specified criterion retrieve, for example, all tunes with a final rise, instead of having to specify three different tune types in the *Tunes* table. Because it records general principles and not details of individual poems or recitations, this table is identical for both poems' databases.

ID	Syllable	Stress	Reduc	Linest	Scan	Bounda
1	Read	/	s	#	R	#
2	me	/	w		I	/
3	a	/	w		R	#
4	less	/	s		I	$
5	on	x	w		R	/
6	Muse	/	s		I	/
7	and	/	w		R	#
8	speak	/	s		I	#
9	it	/	w		R	/
10	loud	/	s	/	I	/
11	U	x	w	#	R	$
12	pon	/	s		I	/
13	the	/	w		R	#
14	top	/	s		I	/
15	of	/	w		R	#
16	Nev	/	s		I	$
17	is	x	w		R	/
18	blind	/	s		I	/
19	in	/	w		R	#
20	mist	/	s	/	I	/
21	I	/	w	#	R	#
22	look	/	s		I	/
23	in	/	s		I	$
24	to	x	w		R	/
25	the	/	w		R	#
26	cha	/	s		I	$
27	sms	x	w		R	/
28	and	/	w		I	#
29	a	/	w		R	#
30	shroud	/	s	/	I	/
31	Va	/	s	#	I	$
32	porous	x	w		R	/
33	doth	/	w		R	#
34	hide	/	s		I	#
35	them	/	w		R	/
36	just	/	s		I	/
37	so	/	w		R	#
38	much	/	s		I	/
39	I	/	w		R	#
40	wist	/	s	/	I	/
41	Man	/	s	#	R	$
42	kind	/	s		I	/
43	do	/	w		R	#
44	know	/	s		I	/
45	of	/	w		R	#
46	Hell	/	s		I	/
47	I	/	w		R	#
48	look	/	s		I	/
49	o'er	/	s		R	$
50	head	/	s	/	I	/
51	And	/	w	#	R	#
52	there	/	w		I	#
53	is	/	w		R	#
54	su	/	s		I	$
55	llen	x	w		R	/
56	mist	/	s		I	/
57	e	/	s		I	$
58	ven	x	w		R	/
59	so	/	w		R	#
60	much	/	s	/	I	/
61	Man	/	s	#	R	$

ID	Syllable	Stress	Reduc	Linest	Scan	Bounda
62	kind	/	s		I	/
63	can	/	w		R	#
64	tell	/	s		I	/
65	of	/	w		R	#
66	Hea	/	s		I	$
67	ven	x	w		R	/
68	Mist	/	s		I	/
69	is	/	w		R	#
70	spread	/	s	/	I	/
71	Be	x	w	#	R	$
72	fore	/	s		I	/
73	the	/	w		R	#
74	earth	/	s		I	/
75	be	x	w		R	$
76	neath	/	s		I	#
77	me	/	w		R	/
78	ev	/	s		I	$
79	en	x	w		R	/
80	such	/	s	/	I	/
81	Ev	/	s	#	I	$
82	en	x	w		R	/
83	so	/	w		R	#
84	vague	/	s		I	/
85	is	/	w		R	#
86	man's	/	s		I	/
87	sight	/	s		R	/
88	of	/	w		I	#
89	him	x	w		R	$
90	self	/	s	/	I	/
91	Here	/	s	#	R	/
92	are	/	w		I	#
93	the	/	w		R	#
94	cragg	/	s		I	$
95	y	x	w		R	/
96	stones	/	s		I	/
97	be	x	w		R	$
98	neath	/	s		I	/
99	my	/	w		R	#
100	feet	/	s	/	I	/
101	Thus	/	s	#	R	/
102	much	/	s		I	/
103	I	/	w		R	#
104	know	/	s		I	/
105	that	/	w		R	#
106	a	/	w		I	#
107	poor	/	s		R	/
108	wit	/	s		I	$
109	less	x	w		R	/
110	elf	/	s	/	I	/
111	I	/	w	#	R	#
112	tread	/	s		I	#
113	on	/	w		R	#
114	them	/	w		I	/
115	that	/	w		R	#
116	all	/	s		I	/
117	my	/	w		R	#
118	eye	/	s		I	/
119	doth	/	w		R	#
120	meet	/	s	/	I	/
121	Is	/	w	#	R	#
122	mist	/	s		I	/

ID	Syllable	Stress	Reduc	Linest	Scan	Bounda
123	and	/	w		R	#
124	crag	/	s		I	/
125	not	/	w		R	#
126	on	/	s		I	$
127	ly	x	w		R	/
128	on	/	w		I	#
129	this	/	w		R	#
130	height	/	s	/	I	/
131	But	/	w	#	R	#
132	in	/	w		I	#
133	the	/	w		R	#
134	world	/	s		I	/
135	of	/	w		R	#
136	thought	/	s		I	/
137	and	/	w		R	#
138	men	/	s		I	$
139	tal	x	w		R	/
140	might	/	s	/	I	/

Keats: *Discontinuities* table (syllables added from *Text* table for ease of following)

Reader	Syllable key	Syllable	Pause	Length	Pitch reset	Segmental	NG Boun	Tune Bour
1	5	on		No		Yes	Yes	No
1	6	Muse		Yes	8	Yes	Yes	Yes
1	10	loud		Yes	12	No	Yes	Yes
1	17	is	/	No	18	No	Yes	Yes
1	18	blind		Yes	20	No	Yes	Yes
1	20	mist	/	Yes	22	Yes	Yes	Yes
1	22	look		Yes		No	Yes	No
1	27	sms	/	No	30	Yes	Yes	Yes
1	30	shroud		No	31	No	No	No
1	32	porous		No	33	No	Yes	No
1	35	them	/	No	36	No	Yes	Yes
1	40	wist		No		No	Yes	No
1	42	kind		No		No	Yes	No
1	46	Heil	/	No	48	No	Yes	Yes
1	50	head	/	Yes	52	Yes	Yes	Yes
1	52	there		Yes	54	No	Yes	No
1	56	mist	/	No	57	Yes	Yes	Yes
1	60	much		No		No	Yes	No
1	62	kind		No		No	Yes	No
1	67	ven	/	No	68	Yes	Yes	Yes
1	74	earth	/	Yes	97	No	Yes	Yes
1	77	me	/	No		Yes	Yes	Yes
1	80	such	/	No	81	Yes	Yes	Yes
1	84	vague		Yes	87	No	Yes	Yes
1	90	self	/	No	91	No	Yes	Yes
1	96	stones		Yes		Yes	Yes	Yes
1	100	feet	/	No	101	Yes	Yes	Yes
1	104	know	/	No		No	Yes	Yes
1	105	that	/	No	106	Yes	Yes	Yes
1	110	elf	/	No	112	No	Yes	Yes
1	114	them	/	No	116	No	Yes	Yes
1	118	eye		Yes	120	No	Yes	No
1	120	meet		Yes	122	Yes	Yes	Yes
1	124	crag	/	Yes	125	Yes	Yes	Yes
1	130	height	/	No	131	Yes	Yes	Yes
1	134	world		Yes		No	Yes	No
1	136	thought	/	Yes	137	Yes	Yes	Yes
2	6	Muse		Yes	8	No	Yes	Yes
2	10	loud		Yes	12	No	Yes	Yes
2	17	is	/	Yes	18	No	Yes	Yes
2	20	mist	/	Yes	22	No	Yes	Yes
2	27	sms	/	Yes	28	Yes	Yes	Yes
2	30	shroud		Yes		No	No	No
2	32	porous		No	33	No	Yes	Yes
2	35	them	/	No	36	Yes	Yes	Yes
2	36	just		Yes		Yes	Yes	No
2	38	much		Yes		No	Yes	No
2	40	wist		No		No	Yes	No
2	42	kind		No		No	Yes	No
2	46	Heil	/	No	48	No	Yes	Yes
2	50	head	/	Yes	51	Yes	Yes	Yes
2	56	mist	/	Yes	57	Yes	Yes	Yes
2	60	much	/	No	62	No	Yes	Yes
2	67	ven	/	No	68	No	Yes	Yes
2	70	spread		No	72	Yes	Yes	Yes
2	74	earth	/	No		No	Yes	No
2	77	me	/	No	78	Yes	Yes	Yes
2	80	such		Yes	81	Yes	Yes	Yes
2	84	vague		Yes		Yes	Yes	Yes
2	87	sight		No		No	Yes	No
2	90	self	/	No	91	No	Yes	Yes

Reader	Syllable key	Syllable	Pause	Length	Pitch reset	Segmental	NG Boun	Tune Bour
2	96	stones		No		Yes	No	No
2	100	feet	/	No	101	Yes	Yes	Yes
2	104	know		No		No	Yes	No
2	105	that	/	No	107	Yes	Yes	Yes
2	110	elf	/	No	112	Yes	Yes	Yes
2	114	them	/	No	116	No	Yes	Yes
2	116	all		Yes		No	Yes	No
2	118	eye		Yes		No	Yes	No
2	120	meet		Yes		Yes	Yes	No
2	122	mist		Yes		Yes	Yes	No
2	124	crag	/	Yes		Yes	Yes	Yes
2	130	height	/	Yes	132	Yes	Yes	Yes
2	134	world		Yes		No	No	No
2	136	thought	/	No	138	Yes	Yes	Yes
3	5	on		No		Yes	Yes	No
3	6	Muse	/	Yes		Yes	Yes	Yes
3	9	it		No		Yes	No	No
3	10	loud		Yes		No	Yes	No
3	17	is	/	No	18	No	Yes	Yes
3	18	blind		Yes		No	Yes	No
3	20	mist	/	No	21	Yes	Yes	Yes
3	27	sms	/	No	30	Yes	Yes	Yes
3	32	porous	/	No	34	No	Yes	Yes
3	35	them	/	No	36	Yes	Yes	Yes
3	38	much		Yes		No	Yes	No
3	40	wist		No	41	Yes	Yes	Yes
3	42	kind		Yes	44	Yes	Yes	No
3	46	Hell	/	No	48	No	Yes	Yes
3	50	head	/	Yes	52	Yes	Yes	Yes
3	52	there		Yes		No	Yes	No
3	56	mist	/	No	57	Yes	Yes	Yes
3	60	much		Yes	61	No	Yes	Yes
3	62	kind		Yes		Yes	Yes	No
3	64	tell		Yes		No	No	No
3	67	ven	/	No	68	Yes	Yes	Yes
3	68	Mist		Yes		No	Yes	No
3	70	spread		No		Yes	Yes	No
3	74	earth	/	No	76	No	Yes	Yes
3	77	me	/	No	78	No	Yes	Yes
3	80	such	/	No	81	Yes	Yes	Yes
3	84	vague		Yes	86	No	Yes	Yes
3	87	sight		Yes		No	No	No
3	90	self	/	No	91	No	Yes	Yes
3	91	Here		Yes	92	No	Yes	No
3	96	stones		No	98	Yes	Yes	No
3	100	feet	/	No	101	Yes	Yes	Yes
3	102	much		No	103	Yes	Yes	No
3	104	know	/	No	105	No	Yes	Yes
3	105	that	/	No	107	Yes	Yes	No
3	110	elf	/	No		Yes	Yes	Yes
3	111	I		Yes		No	No	No
3	114	them	/	No	116	Yes	Yes	Yes
3	120	meet	/	No	121	Yes	Yes	Yes
3	124	crag	/	No	125	Yes	Yes	Yes
3	130	height	/	No	131	Yes	Yes	Yes
3	136	thought	/	Yes	138	Yes	Yes	Yes
4	5	on		No		Yes	Yes	No
4	6	Muse	/	Yes		Yes	Yes	Yes
4	10	loud	/	Yes		Yes	Yes	No
4	17	is	/	Yes	18	No	Yes	Yes
4	18	blind		Yes		No	No	No

Reader	Syllable key	Syllable	Pause	Length	Pitch reset	Segmental	NG Boun	Tune Boun
4	20	mist	/	No	22	Yes	Yes	Yes
4	27	sms	/	Yes		Yes	Yes	Yes
4	30	shroud		Yes		Yes	No	No
4	32	porous		No	33	No	Yes	Yes
4	35	them	/	No	36	Yes	Yes	Yes
4	38	much	/	No		No	Yes	No
4	40	wist		No	41	Yes	Yes	Yes
4	42	kind		Yes		No	Yes	No
4	46	Hell	/	No	48	No	Yes	Yes
4	48	look	/	No		No	Yes	No
4	50	head	/	No	52	Yes	Yes	Yes
4	56	mist	/	No	57	Yes	Yes	Yes
4	60	much		No		No	Yes	No
4	62	kind		No		Yes	Yes	No
4	67	ven	/	No	70	No	Yes	Yes
4	70	spread	/	No		Yes	Yes	No
4	74	earth	/	No	76	No	Yes	Yes
4	77	me	/	No	78	No	Yes	Yes
4	80	such	/	No	81	No	Yes	Yes
4	84	vague		No	87	No	Yes	Yes
4	90	self	/	No	91	No	Yes	Yes
4	91	Here		No		Yes	Yes	No
4	96	stones		No		Yes	Yes	No
4	100	feet	/	No	101	Yes	Yes	Yes
4	104	know	/	No	105	No	Yes	Yes
4	105	that	/	No		Yes	Yes	No
4	110	elf	/	No	111	No	Yes	Yes
4	114	them	/	No	116	No	Yes	Yes
4	118	eye		Yes		No	Yes	No
4	120	meet	/	No		Yes	Yes	Yes
4	122	mist	/	Yes		Yes	Yes	No
4	124	crag	/	Yes	125	Yes	Yes	Yes
4	130	height	/	No		Yes	Yes	Yes
4	136	thought	/	No	137	Yes	Yes	Yes
5	5	on		No		Yes	No	No
5	6	Muse	/	No	8	Yes	Yes	Yes
5	10	loud		Yes	12	No	Yes	Yes
5	17	is	/	Yes	18	No	Yes	Yes
5	20	mist	/	No	22	Yes	Yes	Yes
5	27	sms	/	No	30	Yes	Yes	Yes
5	30	shroud		Yes	31	No	Yes	Yes
5	32	porous		No	34	No	No	No
5	35	them	/	No	36	Yes	Yes	Yes
5	40	wist		Yes		Yes	Yes	Yes
5	46	Hell	/	No	48	No	Yes	Yes
5	50	head	/	No	52	Yes	Yes	Yes
5	56	mist	/	No	57	Yes	Yes	Yes
5	60	much	/	Yes	61	No	Yes	Yes
5	67	ven	/	No	68	Yes	Yes	Yes
5	70	spread		No	71	No	Yes	Yes
5	74	earth	/	No	76	No	Yes	Yes
5	77	me	/	No	78	Yes	Yes	Yes
5	80	such		No	81	Yes	Yes	Yes
5	84	vague		Yes	86	No	Yes	Yes
5	87	sight		No		No	Yes	No
5	90	self	/	No	91	No	Yes	Yes
5	96	stones		No	98	Yes	Yes	Yes
5	100	feet	/	No	102	Yes	Yes	Yes
5	104	know	/	No	107	No	Yes	Yes
5	110	elf	/	No	112	No	Yes	Yes
5	114	them	/	No	115	No	Yes	Yes

Reader	Syllable key	Syllable	Pause	Length	Pitch reset	Segmental	NG Boun	Tune Bour
5	118	eye		Yes		No	Yes	No
5	120	meet	/	No		Yes	Yes	Yes
5	124	crag	/	No		Yes	Yes	Yes
5	130	height	/	No	131	Yes	Yes	Yes
5	136	thought		No		No	Yes	No
6	5	on		No		Yes	Yes	No
6	6	Muse	/	Yes	8	Yes	Yes	Yes
6	10	loud		Yes	12	Yes	Yes	Yes
6	14	top		Yes		No	No	No
6	17	is		No	18	Yes	Yes	Yes
6	18	blind		Yes	19	No	Yes	Yes
6	20	mist	/	No	22	Yes	Yes	Yes
6	22	look		Yes		No	No	No
6	27	sms	/	No	28	Yes	Yes	Yes
6	30	shroud		Yes	31	No	No	No
6	32	porous		No	34	No	Yes	Yes
6	35	them	/	No	36	Yes	Yes	Yes
6	38	much		Yes		No	Yes	No
6	40	wist	/	No	42	Yes	Yes	Yes
6	42	kind		Yes	43	No	Yes	No
6	46	Hell	/	No	48	No	Yes	Yes
6	50	head	/	No	51	Yes	Yes	Yes
6	56	mist	/	No	57	Yes	Yes	Yes
6	60	much		No	62	No	Yes	Yes
6	62	kind		Yes	64	No	Yes	No
6	64	tell		Yes		No	Yes	No
6	67	ven	/	No	68	Yes	Yes	Yes
6	70	spread		Yes		No	Yes	No
6	74	earth	/	No	76	No	Yes	Yes
6	77	me	/	No	78	No	Yes	Yes
6	80	such	/	No	81	No	Yes	Yes
6	84	vague		Yes	85	No	Yes	Yes
6	87	sight	/	Yes	88	No	Yes	Yes
6	90	self	/	No	91	No	Yes	Yes
6	91	Here		No		No	Yes	No
6	96	stones		No	98	Yes	Yes	No
6	100	feet	/	No	101	Yes	Yes	Yes
6	104	know		No	105	No	Yes	Yes
6	105	that	/	No	106	Yes	Yes	Yes
6	110	elf	/	No	111	No	Yes	Yes
6	114	them	/	No	116	No	Yes	Yes
6	118	eye		Yes		No	Yes	No
6	120	meet		Yes	121	No	Yes	Yes
6	122	mist		Yes		No	Yes	No
6	124	crag	/	No	125	Yes	Yes	Yes
6	130	height	/	No	132	Yes	Yes	Yes
6	134	world		Yes	136	No	Yes	No
6	136	thought	/	No	137	Yes	Yes	Yes
7	5	on		No		Yes	Yes	No
7	6	Muse	/	No	7	Yes	Yes	Yes
7	17	is	/	No	18	No	Yes	Yes
7	18	blind		Yes		No	No	No
7	20	mist	/	No	22	No	Yes	Yes
7	27	sms	/	Yes	30	Yes	Yes	Yes
7	30	shroud		Yes	31	Yes	No	No
7	32	porous	/	No	34	No	Yes	Yes
7	35	them	/	No	36	Yes	Yes	Yes
7	36	just		Yes		No	No	No
7	40	wist		No		No	Yes	No
7	42	kind		Yes		No	No	No
7	46	Hell	/	No	48	Yes	Yes	Yes

Reader	Syllable key	Syllable	Pause	Length	Pitch reset	Segmental	NG Boun	Tune Bour
7	50	head	/	No		Yes	Yes	Yes
7	55	llen		Yes		No	No	No
7	56	mist	/	No	57	Yes	Yes	Yes
7	60	much		No		No	Yes	No
7	62	kind		No		Yes	No	No
7	64	tell		Yes		No	Yes	No
7	67	ven	/	No	68	Yes	Yes	Yes
7	68	Mist		Yes		No	Yes	No
7	70	spread		No		Yes	Yes	No
7	74	earth	/	Yes	76	No	Yes	Yes
7	77	me	/	No	78	No	Yes	Yes
7	80	such	/	Yes	81	No	Yes	Yes
7	84	vague		Yes	86	No	Yes	Yes
7	90	self	/	No	91	No	Yes	Yes
7	91	Here	/	Yes	94	No	No	No
7	96	stones		No		Yes	Yes	No
7	100	feet	/	No	101	Yes	Yes	Yes
7	104	know	/	Yes	107	No	Yes	Yes
7	105	that		Yes		No	No	No
7	110	elf	/	No	111	Yes	Yes	Yes
7	114	them	/	No	116	Yes	Yes	Yes
7	118	eye		Yes		No	Yes	No
7	120	meet		No	122	No	Yes	Yes
7	122	mist	/	Yes		Yes	Yes	No
7	124	crag	/	Yes	125	Yes	Yes	Yes
7	130	height	/	Yes	132	Yes	Yes	Yes
7	134	world		Yes		No	No	No
7	136	thought	/	Yes	137	Yes	Yes	Yes
8	5	on		No		Yes	No	No
8	6	Muse	/	No	8	Yes	Yes	Yes
8	10	loud		Yes	12	No	Yes	Yes
8	17	is	/	Yes	18	Yes	Yes	Yes
8	20	mist	/	No	21	Yes	Yes	Yes
8	27	sms	/	No	30	Yes	Yes	Yes
8	32	porous	/	Yes	34	No	Yes	Yes
8	35	them	/	No	36	Yes	Yes	Yes
8	40	wist		No	42	Yes	Yes	Yes
8	46	Hell	/	No	48	No	Yes	Yes
8	50	head	/	No	51	Yes	Yes	Yes
8	56	mist	/	Yes	57	Yes	Yes	Yes
8	60	much		Yes	62	No	Yes	Yes
8	67	ven	/	No	68	Yes	Yes	Yes
8	74	earth	/	No	76	No	Yes	Yes
8	77	me	/	No	78	No	Yes	Yes
8	80	such	/	Yes	81	No	Yes	Yes
8	84	vague		Yes	86	No	Yes	Yes
8	90	self	/	No	91	No	Yes	Yes
8	96	stones		No	98	Yes	Yes	Yes
8	100	feet	/	No	101	Yes	Yes	Yes
8	104	know	/	No	105	No	Yes	Yes
8	105	that	/	No	106	Yes	Yes	No
8	110	elf		No	112	No	Yes	Yes
8	114	them	/	No	116	Yes	Yes	Yes
8	118	eye		Yes		No	No	No
8	120	meet		No	121	No	Yes	Yes
8	124	crag	/	No	126	Yes	Yes	Yes
8	130	height	/	No	132	Yes	Yes	Yes
8	136	thought	/	No	138	Yes	Yes	Yes
9	5	on		No		Yes	Yes	No
9	6	Muse		Yes		No	Yes	Yes
9	10	loud		Yes		No	Yes	No

Reader	Syllable key	Syllable	Pause	Length	Pitch reset	Segmental	NG Boun	Tune Bour
9	17	is	/	No	18	No	Yes	Yes
9	20	mist	/	No	22	Yes	Yes	Yes
9	27	sms		Yes	30	Yes	Yes	Yes
9	32	porous		No	34	No	Yes	Yes
9	35	them	/	No	36	Yes	Yes	Yes
9	40	wist		No		No	Yes	No
9	42	kind		Yes		No	Yes	No
9	46	Hell	/	No	48	No	Yes	Yes
9	50	head		No	51	No	Yes	Yes
9	56	mist	/	No		Yes	Yes	Yes
9	60	much		No		No	Yes	No
9	62	kind		Yes		Yes	Yes	No
9	67	ven	/	No	68	Yes	Yes	Yes
9	70	spread		No	71	No	Yes	No
9	74	earth	/	No		No	Yes	Yes
9	77	me	/	No		No	Yes	Yes
9	80	such	/	No	81	No	Yes	Yes
9	83	so		Yes	84	No	Yes	Yes
9	84	vague		No		No	Yes	No
9	90	self	/	No	91	No	Yes	Yes
9	96	stones		No		No	Yes	Yes
9	100	feet	/	No	101	Yes	Yes	Yes
9	104	know		Yes		No	Yes	No
9	105	that	/	No	107	Yes	Yes	Yes
9	110	elf	/	No	112	No	Yes	Yes
9	114	them	/	No	116	Yes	Yes	Yes
9	120	meet		No		No	Yes	No
9	124	crag	/	No	125	Yes	Yes	Yes
9	130	height	/	No	131	Yes	Yes	Yes
9	134	world		Yes		No	Yes	No
9	136	thought	/	No		Yes	Yes	No

Keats: *Pitch* table (syllables added from *Text* table for ease of following)

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
1	1	1	Read	T	#	/	1	1
1	2	2	me	T	R		1	1
1	3	3	a	T	R		1	1
1	4	4	less	H	D	/	1	1
1	5	5	on	M	D		1	1
1	6	6	Muse	M	R	/	2	1
1	6	7	Muse	L	D	/	2	1
1	7	8	and	L	R		3	2
1	8	9	speak	M	U	/	3	2
1	9	10	it	H	U		3	2
1	10	11	loud	H	D	/	3	2
1	10	12	loud	L	D	/	3	2
1	11	13	U	L	R		4	3
1	12	14	pon	M	U	'	4	3
1	13	15	the	M	R		4	3
1	14	16	top	M	R	'	4	3
1	15	17	of	M	R		4	3
1	16	18	Nev	L	D	/	4	3
1	17	19	is	L	D		4	3
1	18	20	blind	H	U	/	5	4
1	18	21	blind	L	D	/	5	4
1	19	22	in	L	D		6	5
1	20	23	mist	M	U	/	6	5
1	20	24	mist	L	D	/	6	5
1	21	25	I	L	U		7	6
1	22	26	look	H	U	/	7	6
1	22	27	look	H	U	/	7	6
1	23	28	in	H	D		8	6
1	24	29	to	L	D	'	8	6
1	25	30	the	L	R		8	6
1	26	31	cha	L	D	/	8	6
1	27	32	sms	L	R		8	6
1	28	33	and	L	U		9	7
1	29	34	a	L	R		9	7
1	30	35	shroud	H	U	/	9	7
1	30	36	shroud	M	D	/	9	7
1	31	37	Va	H	U	/	9	7
1	32	38	porous	L	D		9	7
1	33	39	doth	M	U		10	7
1	34	40	hide	M	R	/	10	7
1	35	41	them	L	D		10	7
1	36	42	just	M	U	/	11	8
1	37	43	so	M	R		11	8
1	38	44	much	M	R	'	11	8
1	39	45	I	L	D		11	8
1	40	46	wist	L	R	/	11	8
1	41	47	Man	L	R		12	8
1	42	48	kind	L	D	'	12	8
1	43	49	do	L	R		13	8
1	44	50	know	L	D	'	13	8
1	45	51	of	L	R		13	8
1	46	52	Hell	M	U	/	13	8
1	46	53	Hell	B	D	/	13	8
1	47	54	II	L	U		14	9
1	48	55	look	H	U	/	14	9
1	49	56	o'er	H	R		14	9
1	49	57	o'er	L	D		14	9
1	50	58	head	H	U	/	14	9
1	51	59	And	L	D		15	10
1	52	60	there	H	U	/	15	10
1	52	61	there	L	D	/	15	10

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
1	53	62	is	H	U		16	10
1	54	63	su	L	D	'	16	10
1	55	64	llen	L	R		16	10
1	56	65	mist	H	U	/	16	10
1	56	66	mist	L	D	/	16	10
1	57	67	e	H	U	/	17	11
1	58	68	ven	H	R		17	11
1	59	69	so	H	R		17	11
1	60	70	much	M	D	/	17	11
1	61	71	Man	M	R		18	11
1	62	72	kind	L	D	'	18	11
1	63	73	can	L	R		19	11
1	64	74	tell	L	D		19	11
1	65	75	of	L	R		19	11
1	66	76	Hea	H	U	/	19	11
1	67	77	ven	L	D		19	11
1	68	78	Mist	M	U	/	20	12
1	69	79	is	M	R		20	12
1	70	80	spread	L	D	'	20	12
1	71	81	Be	L	R		20	12
1	72	82	fore	L	D		20	12
1	73	83	the	L	D		20	12
1	74	84	earth	L	U	/	20	12
1	74	85	earth	H	U	/	20	12
1	75	86	be	L	D		21	13
1	76	87	neath	H	U	/	21	13
1	77	88	me	H	R		21	13
1	78	89	ev	H	R	/	22	14
1	79	90	en	H	R		22	14
1	80	91	such	L	D	'	22	14
1	81	92	Ev	T	U	/	23	15
1	82	93	en	T	R		23	15
1	83	94	so	T	R		23	15
1	84	95	vague	H	D	/	23	15
1	84	96	vague	L	D	/	23	15
1	85	97	is	L	R		24	16
1	86	98	man's	L	R		24	16
1	87	99	sight	M	U	/	24	16
1	88	100	of	L	D		24	16
1	89	101	him	L	R		24	16
1	90	102	self	L	R	'	24	16
1	91	103	Here	M	U	/	25	17
1	92	104	are	M	R		25	17
1	93	105	the	M	R		25	17
1	94	106	cragg	L	D	'	25	17
1	95	107	y	L	R		25	17
1	96	108	stones	M	U	/	25	17
1	96	109	stones	L	D	/	25	17
1	97	110	be	L	R		26	18
1	98	111	neath	L	R	'	26	18
1	99	112	my	L	R		26	18
1	100	113	feet	L	U	/	26	18
1	100	114	feet	B	D	/	26	18
1	101	115	Thus	H	U	/	27	19
1	102	116	much	H	R		27	19
1	103	117	I	H	R		27	19
1	104	118	know	L	D	/	27	19
1	104	119	know	M	U	/	27	19
1	105	120	that	M	R	/	28	20
1	106	121	a	L	D		29	21
1	107	122	poor	L	D		29	21

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
1	108	123	wit	L	U	/	29	21
1	109	124	less	M	U		29	21
1	110	125	elf	L	D	/	29	21
1	110	126	elf	M	U	/	29	21
1	111	127	I	H	U		30	22
1	112	128	tread	M	D	/	30	22
1	113	129	on	L	D		30	22
1	114	130	them	L	R		30	22
1	115	131	that	L	U		31	23
1	116	132	all	M	U	/	31	23
1	117	133	my	M	R		31	23
1	118	134	eye	M	D	/	31	23
1	118	135	eye	L	D	/	31	23
1	119	136	doth	L	R		32	23
1	120	137	meet	M	U	/	32	23
1	121	139	Is	L	D		33	24
1	122	140	mist	M	U	/	33	24
1	123	141	and	M	R		33	24
1	124	142	crag	L	D	/	33	24
1	124	143	crag	B	D	/	33	24
1	125	144	not	L	U		34	25
1	126	145	on	L	D		34	25
1	127	146	ly	L	R		34	25
1	128	147	on	L	D		34	25
1	129	148	this	M	U	/	34	25
1	130	149	height	L	D	/	34	25
1	130	150	height	L	U	/	34	25
1	131	151	But	L	D		35	26
1	132	152	in	M	U		35	26
1	133	153	the	M	R		35	26
1	134	154	world	L	D	/	35	26
1	135	155	of	L	R		36	26
1	136	156	thought	M	U	/	36	26
1	136	157	thought	B	D	/	36	26
1	137	158	and	L	U		37	27
1	138	159	men	L	D		37	27
1	139	160	tal	L	R		37	27
1	140	161	might	L	U	/	37	27
1	140	162	might	B	D	/	37	27
2	1	163	Read	T	#	/	1	1
2	2	164	me	T	R		1	1
2	3	165	a	T	R		1	1
2	4	166	less	M	D	/	1	1
2	5	167	on	L	D		1	1
2	6	168	Muse	L	R	/	1	1
2	6	169	Muse	B	D	/	1	1
2	7	170	and	B	R		2	2
2	8	171	speak	M	U	/	2	2
2	9	172	it	M	R		2	2
2	10	173	loud	L	D	/	2	2
2	10	174	loud	B	D	/	2	2
2	11	175	U	B	R		3	3
2	12	176	pon	M	U	/	3	3
2	13	177	the	M	R		3	3
2	14	178	top	M	R		3	3
2	15	179	of	M	R		3	3
2	16	180	Nev	L	D	/	3	3
2	17	181	is	B	D		3	3
2	18	182	blind	L	U	/	4	4
2	19	183	in	L	R		4	4
2	20	184	mist	L	R	/	4	4

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
2	21	185	I	L	R		5	5
2	22	186	look	H	U	/	5	5
2	23	187	in	H	R		5	5
2	24	188	to	H	R		5	5
2	25	189	the	H	R		5	5
2	26	190	cha	M	D	/	5	5
2	27	191	sms	M	R		5	5
2	28	192	and	L	D		6	6
2	29	193	a	L	R		6	6
2	30	194	shroud	L	U	/	6	6
2	31	195	Va	L	R	/	6	6
2	32	196	porous	L	D		6	6
2	33	197	doth	L	U		7	7
2	34	198	hide	L	R	/	7	7
2	35	199	them	L	D		7	7
2	36	200	just	H	U	/	8	8
2	37	201	so	M	D		9	8
2	38	202	much	H	U	/	9	8
2	39	203	I	L	D		10	8
2	40	204	wist	M	U	/	10	8
2	41	205	Man	L	D		11	8
2	42	206	kind	M	U	/	11	8
2	43	207	do	L	D		12	8
2	44	208	know	M	U	'	12	8
2	45	209	of	M	R		12	8
2	46	210	Hell	L	D	/	12	8
2	46	211	Hell	B	D	/	12	8
2	47	212	I	M	U		13	9
2	48	213	look	T	U	/	13	9
2	49	214	o'er	T	R		13	9
2	50	215	head	M	D	/	13	9
2	50	216	head	H	U	/	13	9
2	51	217	And	M	D		14	10
2	52	218	there	M	R	'	14	10
2	53	219	is	M	R		14	10
2	54	220	su	M	R	'	14	10
2	55	221	llen	M	R		14	10
2	56	222	mist	M	R	/	14	10
2	56	223	mist	L	D	/	14	10
2	57	224	e	L	U	/	15	11
2	58	225	ven	L	D		15	11
2	59	226	so	L	D		15	11
2	60	227	much	L	D	/	15	11
2	61	228	Man	L	U		16	12
2	62	229	kind	M	U	/	16	12
2	63	230	can	L	D		16	12
2	64	231	tell	M	U	'	16	12
2	65	232	of	L	D		16	12
2	66	233	Hea	M	U	/	16	12
2	67	234	ven	B	D		16	12
2	68	235	Mist	H	U	/	17	13
2	69	236	is	M	D		17	13
2	70	237	spread	L	D	/	17	13
2	71	238	Be	L	D		18	14
2	72	239	fore	M	U	/	18	14
2	73	240	the	L	D		18	14
2	74	241	earth	M	U	'	18	14
2	75	242	be	L	D		19	14
2	76	243	neath	M	U	/	19	14
2	77	244	me	L	D		19	14
2	77	245	me	L	U		19	14

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
2	78	246	ev	L	U	/	20	15
2	79	247	en	M	U		20	15
2	80	248	such	L	D	/	20	15
2	81	249	Ev	L	U	/	21	16
2	82	250	en	H	U		21	16
2	83	251	so	H	R		21	16
2	84	252	vague	M	D	/	21	16
2	84	253	vague	L	D	/	21	16
2	84	254	vague	L	U	/	21	16
2	85	255	is	L	R		22	17
2	86	256	man's	L	R	/	22	17
2	87	257	sight	L	R	/	22	17
2	88	258	of	L	R		23	17
2	89	259	him	L	R		23	17
2	90	260	self	L	R	/	23	17
2	90	261	self	B	D	/	23	17
2	91	262	Here	H	U	/	24	18
2	92	263	are	H	R		24	18
2	93	264	the	H	R		24	18
2	94	265	cragg	M	D	/	24	18
2	95	266	y	M	R		24	18
2	96	267	stones	L	D	/	24	18
2	97	268	be	L	R		24	18
2	98	269	neath	L	R	'	24	18
2	99	270	my	L	R		24	18
2	100	271	feet	L	R	/	24	18
2	100	272	feet	B	D	/	24	18
2	101	273	Thus	L	U	/	25	19
2	102	274	much	L	R		25	19
2	103	275	I	L	R		25	19
2	104	276	know	L	D	/	25	19
2	104	277	know	L	U	/	25	19
2	105	278	that	L	U	/	26	19
2	106	279	a	L	R		27	20
2	107	280	poor	M	U	/	27	20
2	108	281	wit	M	R	/	27	20
2	109	282	less	M	R		27	20
2	110	283	elf	L	D	/	27	20
2	110	284	elf	B	D	/	27	20
2	111	285	I	L	U		28	21
2	112	286	tread	M	U	/	28	21
2	113	287	on	B	D		28	21
2	114	288	them	B	R		28	21
2	115	289	that	L	U		29	22
2	116	290	all	H	U	/	29	22
2	117	291	my	L	D		30	22
2	118	292	eye	M	U	/	30	22
2	119	293	doth	L	D		31	22
2	120	294	meet	M	U	/	31	22
2	121	295	Is	L	D		32	22
2	122	296	mist	M	U	/	32	22
2	123	297	and	L	D		33	22
2	124	298	crag	M	U	/	33	22
2	125	299	not	M	R	/	34	23
2	126	300	on	L	D		34	23
2	127	301	ly	L	D		34	23
2	128	302	on	L	D		34	23
2	129	303	this	L	D		34	23
2	130	304	height	M	U	/	34	23
2	130	305	height	B	D	/	34	23
2	131	306	But	L	U		35	24

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
2	132	307	in	M	U	/	35	24
2	133	308	the	M	R		35	24
2	134	309	world	L	D	/	35	24
2	135	310	of	L	R		35	24
2	136	311	thought	M	U	/	35	24
2	136	312	thought	B	D	/	35	24
2	137	313	and	L	U		36	25
2	138	314	men	M	U	/	36	25
2	139	315	tal	B	D		36	25
2	140	316	might	B	R	'	36	25
3	1	317	Read	T	#	/	1	1
3	2	318	me	T	R		1	1
3	3	319	a	T	R		1	1
3	4	320	less	M	D	/	1	1
3	5	321	on	B	D		1	1
3	6	322	Muse	B	R	/	2	1
3	6	323	Muse	L	U	/	2	1
3	7	324	and	L	D		3	2
3	8	325	speak	M	U	/	3	2
3	9	326	it	L	D		3	2
3	10	327	loud	M	U	/	3	2
3	11	328	U	L	D		4	2
3	12	329	pon	M	U	'	4	2
3	13	330	the	L	D		4	2
3	14	331	top	M	U	'	4	2
3	15	332	of	L	D		4	2
3	16	333	Nev	M	U	/	4	2
3	17	334	is	B	D		4	2
3	18	335	blind	M	U	/	5	3
3	19	336	in	L	D		6	3
3	20	337	mist	B	D	/	6	3
3	21	338	I	L	U		7	4
3	22	339	look	L	R	/	7	4
3	23	340	in	L	R		7	4
3	24	341	to	L	R		7	4
3	25	342	the	L	R		7	4
3	26	343	cha	L	D	/	7	4
3	27	344	sms	L	R		7	4
3	28	345	and	L	R		8	5
3	29	346	a	L	R		8	5
3	30	347	shroud	H	U	/	8	5
3	31	348	Va	L	D	/	8	5
3	32	349	porous	L	D		8	5
3	32	350	porous	B	D		8	5
3	33	351	doth	L	U		9	6
3	34	352	hide	L	U	/	9	6
3	35	353	them	B	D		9	6
3	36	354	just	M	U	/	10	7
3	37	355	so	M	R		10	7
3	38	356	much	M	R	/	10	7
3	39	357	I	M	R		11	7
3	40	358	wist	L	D	/	11	7
3	41	359	Man	M	U		12	8
3	42	360	kind	M	R	/	12	8
3	42	361	kind	L	D	/	12	8
3	43	362	do	L	U		13	8
3	44	363	know	L	U	'	13	8
3	45	364	of	L	R		13	8
3	46	365	Hell	M	U	/	13	8
3	46	366	Hell	B	D	/	13	8
3	47	367	I	M	U		14	9

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
3	48	368	look	H	U	/	14	9
3	49	369	o'er	L	D		14	9
3	49	370	o'er	H	U		14	9
3	50	371	head	H	U	/	14	9
3	50	372	head	L	D	/	14	9
3	51	373	And	M	U		15	10
3	52	374	there	H	U	/	15	10
3	53	375	is	L	D		16	10
3	54	376	su	L	R	*	16	10
3	55	377	llen	L	R		16	10
3	56	378	mist	L	D	/	16	10
3	57	379	e	L	U	/	17	11
3	58	380	ven	L	R		17	11
3	59	381	so	L	R		17	11
3	60	382	much	L	D	/	17	11
3	60	383	much	L	U	/	17	11
3	61	384	Man	L	D		18	12
3	62	385	kind	L	U	/	18	12
3	63	386	can	L	R		19	12
3	64	387	tell	M	U	/	19	12
3	65	388	of	M	R		19	12
3	66	389	Hea	M	R	/	19	12
3	67	390	ven	B	D		19	12
3	68	391	Mist	M	U	/	20	13
3	69	392	is	L	D		21	13
3	70	393	spread	M	U	/	21	13
3	71	394	Be	L	D		22	13
3	72	395	fore	M	U	/	22	13
3	73	396	the	L	D		22	13
3	74	397	earth	L	R	/	22	13
3	75	398	be	L	R		23	14
3	76	399	neath	M	U	/	23	14
3	77	400	me	B	D		23	14
3	78	401	ev	H	U	/	24	15
3	79	402	en	H	R		24	15
3	80	403	such	H	D	/	24	15
3	81	404	Ev	H	U	/	25	16
3	82	405	en	H	R		25	16
3	83	406	so	H	R		25	16
3	84	407	vague	M	D	/	25	16
3	84	408	vague	B	D	/	25	16
3	85	409	is	B	R		26	17
3	86	410	man's	L	U	/	26	17
3	87	411	sight	L	U	/	26	17
3	88	412	of	L	U		26	17
3	89	413	him	M	U		26	17
3	90	414	self	H	U	/	26	17
3	90	415	self	L	D	/	26	17
3	91	416	Here	M	U	/	27	18
3	92	417	are	B	D		28	18
3	93	418	the	B	R		28	18
3	94	419	cragg	L	U	*	28	18
3	95	420	y	L	R		28	18
3	96	421	stones	L	D	/	28	18
3	97	422	be	L	D		29	18
3	98	423	neath	L	U	*	29	18
3	99	424	my	L	R		29	18
3	100	425	feet	L	R	/	29	18
3	100	426	feet	B	D	/	29	18
3	101	427	Thus	H	U	/	30	19
3	102	428	much	B	D		30	19

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
3	103	429	I	L	U	/	31	19
3	104	430	know	L	D	/	31	19
3	104	431	know	L	U	/	31	19
3	105	432	that	M	U	/	32	20
3	106	433	a	M	R		33	20
3	107	434	poor	H	U	/	33	20
3	108	435	wit	H	D	/	33	20
3	109	436	less	H	R		33	20
3	110	437	elf	M	D	/	33	20
3	111	438	I	M	R	/	34	21
3	112	439	tread	M	R	/	34	21
3	113	440	on	B	D		34	21
3	114	441	them	B	R	'	34	21
3	115	442	that	L	U		35	22
3	116	443	all	T	U	/	35	22
3	117	444	my	T	R		35	22
3	118	445	eye	M	D	/	35	22
3	119	446	doth	M	R		35	22
3	120	447	meet	M	R	/	35	22
3	120	448	meet	B	D	/	35	22
3	121	449	Is	M	U	/	36	23
3	122	450	mist	L	D	/	36	23
3	123	451	and	L	R		36	23
3	124	452	crag	M	U	/	36	23
3	124	453	crag	B	D	/	36	23
3	125	454	not	M	U		37	24
3	126	455	on	L	D	/	37	24
3	127	456	ly	L	R		37	24
3	128	457	on	L	D	'	37	24
3	129	458	this	L	D		37	24
3	130	459	height	M	U	/	37	24
3	130	460	height	L	D	/	37	24
3	131	461	But	M	U		38	25
3	132	462	in	L	D		38	25
3	133	463	the	L	R		38	25
3	134	464	world	L	R	/	38	25
3	135	465	of	L	D		38	25
3	136	466	thought	M	U	/	38	25
3	136	467	thought	L	D	/	38	25
3	137	468	and	L	U		39	26
3	138	469	men	M	U	/	39	26
3	139	470	tal	B	D		39	26
3	140	471	might	B	R	/	39	26
4	1	472	Read	T	#	/	1	1
4	2	473	me	T	R		1	1
4	3	474	a	T	R		1	1
4	4	475	less	H	D	/	1	1
4	5	476	on	L	D		1	1
4	6	477	Muse	L	R	/	2	1
4	7	478	and	L	R		3	2
4	8	479	speak	L	R	'	3	2
4	9	480	it	L	R		3	2
4	10	481	loud	M	U	/	3	2
4	11	482	U	M	R		4	2
4	12	483	pon	M	R		4	2
4	13	484	the	M	R		4	2
4	14	485	top	M	R	'	4	2
4	15	486	of	M	R		4	2
4	16	487	Nev	M	R	/	4	2
4	17	488	is	B	D		4	2
4	18	489	blind	M	U	/	5	3

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
4	19	490	in	L	D		5	3
4	20	491	mist	M	U	/	5	3
4	21	492	I	M	R		6	4
4	22	493	look	H	U	/	6	4
4	23	494	in	H	R		6	4
4	24	495	to	H	R		6	4
4	25	496	the	H	R		6	4
4	26	497	cha	M	D	/	6	4
4	27	498	sms	M	R		6	4
4	28	499	and	M	R		7	5
4	29	500	a	L	D		7	5
4	30	501	shroud	M	U	/	7	5
4	31	502	Va	M	R	/	7	5
4	32	503	porous	L	D		7	5
4	32	504	porous	B	D		7	5
4	33	505	doth	L	U		8	6
4	34	506	hide	L	R	/	8	6
4	35	507	them	B	D		8	6
4	36	508	just	H	U	/	9	7
4	37	509	so	H	R		9	7
4	38	510	much	M	D	/	9	7
4	39	511	I	L	D		10	7
4	40	512	wist	M	U	/	10	7
4	41	513	Man	L	D		11	8
4	42	514	kind	M	U	/	11	8
4	43	515	do	M	R		12	8
4	44	516	know	M	R	'	12	8
4	45	517	of	M	R		12	8
4	46	518	Hell	L	D	/	12	8
4	46	519	Hell	B	D	/	12	8
4	47	520	I	M	U		13	9
4	48	521	look	H	U	/	13	9
4	49	522	o'er	H	D		14	9
4	49	523	o'er	L	D		14	9
4	50	524	head	H	U	/	14	9
4	51	525	And	L	D		15	10
4	52	526	there	M	U	/	15	10
4	53	527	is	M	R		15	10
4	54	528	su	M	R	/	15	10
4	55	529	llen	M	R		15	10
4	56	530	mist	L	D	/	15	10
4	56	531	mist	L	D	/	15	10
4	57	532	e	H	U	/	16	11
4	58	533	ven	H	R		16	11
4	59	534	so	H	R		16	11
4	60	535	much	M	D	/	16	11
4	61	536	Man	M	R		17	11
4	62	537	kind	M	R	/	17	11
4	63	538	can	M	R		18	11
4	64	539	tell	M	R	'	18	11
4	65	540	of	L	D		18	11
4	66	541	Hea	M	U	/	18	11
4	67	542	ven	L	D		18	11
4	68	543	Mist	L	R	'	19	12
4	69	544	is	L	R		19	12
4	70	545	spread	M	U	/	19	12
4	71	546	Be	M	R		20	12
4	72	547	fore	M	R	'	20	12
4	73	548	the	M	R		20	12
4	74	549	earth	M	R	/	20	12
4	74	550	earth	L	D	/	20	12

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
4	75	551	be	L	D		21	13
4	76	552	neath	M	U	/	21	13
4	77	553	me	L	D		21	13
4	78	554	ev	M	U	/	22	14
4	79	555	en	M	R		22	14
4	80	556	such	L	D	'	22	14
4	81	557	Ev	M	U	/	23	15
4	82	558	en	M	R		23	15
4	83	559	so	M	R		23	15
4	84	560	vague	M	R	/	23	15
4	84	561	vague	L	D	/	23	15
4	85	562	is	L	D		24	16
4	86	563	man's	L	R	'	24	16
4	87	564	sight	M	U	/	24	16
4	88	565	of	M	R		24	16
4	89	566	him	L	D		24	16
4	90	567	self	L	D	/	24	16
4	91	568	Here	H	U	/	25	17
4	92	569	are	H	R		26	17
4	93	570	the	H	R		26	17
4	94	571	cragg	H	R	'	26	17
4	95	572	y	H	R		26	17
4	96	573	stones	L	D	/	26	17
4	97	574	be	L	R		27	17
4	98	575	neath	L	R	'	27	17
4	99	576	my	L	R		27	17
4	100	577	feet	B	D	/	27	17
4	101	578	Thus	H	U	/	28	18
4	102	579	much	L	D		28	18
4	103	580	I	L	R		28	18
4	104	581	know	L	D	/	28	18
4	104	582	know	B	D	/	28	18
4	105	583	that	L	U	/	29	19
4	106	584	a	L	R		30	19
4	107	585	poor	L	R	/	30	19
4	108	586	wit	L	R	/	30	19
4	109	587	less	L	R		30	19
4	110	588	elf	L	D	/	30	19
4	111	589	I	L	U	'	31	20
4	112	590	tread	L	D	/	31	20
4	113	591	on	L	D		31	20
4	114	592	them	L	R		31	20
4	115	593	that	L	U		32	21
4	116	594	all	L	U	'	32	21
4	117	595	my	L	R		32	21
4	118	596	eye	L	D	/	32	21
4	119	597	doth	L	D		33	21
4	120	598	meet	L	U	/	33	21
4	121	599	Is	L	R		34	22
4	122	600	mist	L	D	/	34	22
4	123	601	and	L	R		35	22
4	124	602	crag	L	R	/	35	22
4	124	603	crag	L	D	/	35	22
4	125	604	not	M	U		36	23
4	126	605	on	L	D	/	36	23
4	127	606	ly	L	R		36	23
4	128	607	on	L	R		36	23
4	129	608	this	L	R		36	23
4	130	609	height	M	U	/	36	23
4	130	610	height	L	D	/	36	23
4	131	611	But	L	R		37	24

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
4	132	612	in	L	D	'	37	24
4	133	613	the	L	R		37	24
4	134	614	world	L	R	/	37	24
4	135	615	of	L	R		37	24
4	136	616	thought	L	R	/	37	24
4	136	617	thought	L	D	/	37	24
4	137	618	and	L	U		38	25
4	138	619	men	L	D	'	38	25
4	139	620	tal	L	R		38	25
4	140	621	might	L	R	/	38	25
4	140	622	might	L	D	/	38	25
5	1	623	Read	T	#	/	1	1
5	2	624	me	T	R		1	1
5	3	625	a	T	R		1	1
5	4	626	less	M	D	/	1	1
5	5	627	on	B	D		1	1
5	6	628	Muse	B	R	/	1	1
5	7	629	and	B	R		2	2
5	8	630	speak	L	U	/	2	2
5	9	631	it	L	R		2	2
5	10	632	loud	L	D	/	2	2
5	10	633	loud	B	D	/	2	2
5	11	634	U	B	R		3	3
5	12	635	pon	L	U	/	3	3
5	13	636	the	L	D		3	3
5	14	637	top	L	U	'	3	3
5	15	638	of	L	D		3	3
5	16	639	Nev	M	U	/	3	3
5	17	640	is	B	D		3	3
5	18	641	blind	M	U	/	4	4
5	19	642	in	L	D		4	4
5	20	643	mist	L	D	/	4	4
5	20	644	mist	L	D	/	4	4
5	21	645	I	L	U		5	5
5	22	646	look	H	U	/	5	5
5	23	647	in	H	R		5	5
5	24	648	to	H	R		5	5
5	25	649	the	H	R		5	5
5	26	650	cha	H	R	/	5	5
5	27	651	sms	L	D		5	5
5	28	652	and	L	U		6	6
5	29	653	a	L	R		6	6
5	30	654	shroud	L	R	/	6	6
5	30	655	shroud	B	D	/	6	6
5	31	656	Va	L	U	/	7	7
5	32	657	porous	L	D		7	7
5	33	658	doth	L	R		7	7
5	34	659	hide	M	U	/	7	7
5	35	660	them	B	D		7	7
5	36	661	just	H	U	/	8	8
5	37	662	so	H	R		8	8
5	38	663	much	M	D	'	8	8
5	39	664	I	L	D		8	8
5	40	665	wist	M	U	/	8	8
5	41	666	Man	L	D		9	9
5	42	667	kind	M	U	/	9	9
5	43	668	do	L	D		9	9
5	44	669	know	M	U	'	9	9
5	45	670	of	L	D		9	9
5	46	671	Hell	M	U	/	9	9
5	46	672	Hell	L	D	/	9	9

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
5	47	673	I	M	U		10	10
5	48	674	look	H	U	/	10	10
5	49	675	o'er	H	D		10	10
5	50	676	head	M	D	/	10	10
5	51	677	And	L	D		11	11
5	52	678	there	M	U	/	11	11
5	53	679	is	M	R		11	11
5	54	680	su	H	U	/	11	11
5	55	681	llen	H	R		11	11
5	56	682	mist	L	D	/	11	11
5	57	683	e	L	U	/	12	12
5	58	684	ven	L	R		12	12
5	59	685	so	L	R		12	12
5	60	686	much	M	U	/	12	12
5	61	687	Man	L	D		13	13
5	62	688	kind	L	U	/	13	13
5	63	689	can	L	D		13	13
5	64	690	tell	L	U	'	13	13
5	65	691	of	L	D		13	13
5	66	692	Hea	L	U	/	13	13
5	67	693	ven	L	D		13	13
5	68	694	Mist	L	U	/	14	14
5	69	695	is	L	R		14	14
5	70	696	spread	M	U	/	14	14
5	71	697	Be	L	D		15	15
5	72	698	fore	L	R	/	15	15
5	73	699	the	L	R		15	15
5	74	700	earth	M	U	/	15	15
5	75	702	be	M	U		16	16
5	76	703	neath	H	U	/	16	16
5	77	704	me	L	D		16	16
5	78	705	ev	L	U	/	17	17
5	79	706	en	L	R		17	17
5	80	707	such	L	D	/	17	17
5	80	708	such	B	D	/	17	17
5	81	709	Ev	L	U	/	18	18
5	82	710	en	L	R		18	18
5	83	711	so	L	R		18	18
5	84	712	vague	L	R	/	18	18
5	84	713	vague	L	D	/	18	18
5	85	714	is	L	R		19	19
5	86	715	man's	L	U	/	19	19
5	87	716	sight	L	R	/	19	19
5	88	717	of	L	D		20	19
5	89	718	him	L	R		20	19
5	90	719	self	L	U	/	20	19
5	90	720	self	L	D	/	20	19
5	91	721	Here	T	U	/	21	20
5	92	722	are	T	R		21	20
5	93	723	the	T	R		21	20
5	94	724	cragg	H	D	/	21	20
5	95	725	y	H	R		21	20
5	96	726	stones	M	D	/	21	20
5	96	727	stones	B	D	/	21	20
5	97	728	be	L	U		22	21
5	98	729	neath	M	U	/	22	21
5	99	730	my	M	R		22	21
5	100	731	feet	L	D	/	22	21
5	100	732	feet	L	D	/	22	21
5	101	733	Thus	L	U	/	23	22
5	102	734	much	H	U		23	22

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
5	103	735	I	L	D		23	22
5	104	736	know	L	D	/	23	22
5	104	737	know	L	D	/	23	22
5	105	738	that	L	U		24	23
5	106	739	a	L	R		24	23
5	107	740	poor	L	R	/	24	23
5	108	741	wit	L	R	/	24	23
5	109	742	less	L	R		24	23
5	110	743	elf	L	D	/	24	23
5	111	744	I	L	D		25	24
5	112	745	tread	L	U	/	25	24
5	113	746	on	L	R		25	24
5	114	747	them	L	R		25	24
5	115	748	that	L	D		26	25
5	116	749	all	L	U	*	26	25
5	117	750	my	L	R		26	25
5	118	751	eye	L	D	/	26	25
5	119	752	doth	L	R		27	25
5	120	753	meet	L	U	/	27	25
5	121	754	Is	L	D		28	26
5	122	755	mist	M	U	*	28	26
5	123	756	and	L	D		28	26
5	124	757	crag	M	U	/	28	26
5	125	758	not	L	D		29	27
5	126	759	on	L	D	/	29	27
5	127	760	ly	L	R		29	27
5	128	761	on	L	D	*	29	27
5	129	762	this	L	R		29	27
5	130	763	height	M	U	/	29	27
5	131	764	But	L	D		30	28
5	132	765	in	M	U		30	28
5	133	766	the	L	D		30	28
5	134	767	world	M	U	/	30	28
5	135	768	of	L	D		30	28
5	136	769	thought	M	U	/	30	28
5	137	770	and	L	D		31	28
5	138	771	men	M	U	/	31	28
5	139	772	tal	L	D		31	28
5	140	773	might	L	U	/	31	28
5	140	774	might	L	D	/	31	28
6	1	775	Read	T	#	/	1	1
6	2	776	me	T	R		1	1
6	3	777	a	T	R		1	1
6	4	778	less	H	D	/	1	1
6	5	779	on	M	D		1	1
6	6	780	Muse	M	R	/	2	1
6	6	781	Muse	H	U	/	2	1
6	7	782	and	M	D		3	2
6	8	783	speak	H	U	/	3	2
6	9	784	it	H	R		3	2
6	10	785	loud	H	D	/	3	2
6	10	786	loud	L	D	/	3	2
6	11	787	U	L	R		4	3
6	12	788	pon	H	U	/	4	3
6	13	789	the	H	R		4	3
6	14	790	top	H	R	/	4	3
6	15	791	of	H	R		4	3
6	16	792	Nev	L	D	/	4	3
6	17	793	is	L	D		4	3
6	18	794	blind	H	U	/	5	4
6	18	795	blind	L	D	/	5	4

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
6	19	796	in	M	U		6	5
6	20	797	mist	L	D	/	6	5
6	20	798	mist	L	D	/	6	5
6	21	799	I	L	U		7	6
6	22	800	look	H	U	/	7	6
6	23	801	in	H	R		7	6
6	24	802	to	L	D		7	6
6	25	803	the	L	R		7	6
6	26	804	cha	M	U	/	7	6
6	27	805	sms	M	R		7	6
6	28	806	and	L	D		8	7
6	29	807	a	L	D		8	7
6	30	808	shroud	M	U	/	8	7
6	30	809	shroud	L	D	/	8	7
6	31	810	Va	M	U	/	8	7
6	32	811	porous	L	D		8	7
6	33	812	doth	L	U		9	8
6	34	813	hide	M	U	/	9	8
6	35	814	them	L	D		9	8
6	36	815	just	L	U	/	10	9
6	37	816	so	L	D		10	9
6	38	817	much	M	U	/	10	9
6	39	818	I	L	D		11	9
6	40	819	wist	L	U	/	11	9
6	41	820	Man	M	U		12	10
6	42	821	kind	H	U	/	12	10
6	43	822	do	L	D		13	10
6	44	823	know	L	R		13	10
6	45	824	of	L	R		13	10
6	46	825	Hell	L	U	/	13	10
6	46	826	Hell	B	D	/	13	10
6	47	827	I	L	U		14	11
6	48	828	look	L	U	/	14	11
6	49	829	o'er	L	D		14	11
6	50	830	head	L	U	/	14	11
6	51	831	And	L	D		15	12
6	52	832	there	L	R		15	12
6	53	833	is	L	R		15	12
6	54	834	su	M	U	/	15	12
6	55	835	llen	L	D		15	12
6	56	836	mist	L	U	/	15	12
6	56	837	mist	B	D	/	15	12
6	57	838	e	M	U	/	16	13
6	58	839	ven	M	R		16	13
6	59	840	so	L	D		16	13
6	60	841	much	L	D	/	16	13
6	61	842	Man	L	R		17	14
6	62	843	kind	M	U	/	17	14
6	62	844	kind	L	D	/	17	14
6	63	845	can	L	R		18	14
6	64	846	tell	L	U	/	18	14
6	65	847	of	L	D		19	14
6	66	848	Hea	L	U	/	19	14
6	67	849	ven	L	D		19	14
6	68	850	Mist	M	U	/	20	15
6	69	851	is	M	R		20	15
6	70	852	spread	L	D	/	20	15
6	71	853	Be	L	R		21	15
6	72	854	fore	L	D	/	21	15
6	73	855	the	L	R		21	15
6	74	856	earth	L	U	/	21	15

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
6	74	857	earth	L	D	/	21	15
6	75	858	be	L	R		22	16
6	76	859	neath	L	U	/	22	16
6	77	860	me	B	D		22	16
6	78	861	ev	H	U	/	23	17
6	79	862	en	H	R		23	17
6	80	863	such	L	D	/	23	17
6	81	864	Ev	H	U	/	24	18
6	82	865	en	H	R		24	18
6	83	866	so	H	R		24	18
6	84	867	vague	M	D	/	24	18
6	84	868	vague	L	D	/	24	18
6	85	869	is	M	U		25	19
6	86	870	man's	M	R	'	25	19
6	87	871	sight	M	R	/	25	19
6	87	872	sight	L	D	/	25	19
6	88	873	of	M	U		26	20
6	89	874	him	M	R		26	20
6	90	875	self	M	R	/	26	20
6	90	876	self	L	D	/	26	20
6	91	877	Here	H	U	/	27	21
6	91	878	Here	M	D	/	27	21
6	91	879	Here	H	U	/	27	21
6	92	880	are	H	R		28	21
6	93	881	the	H	R		28	21
6	94	882	cragg	H	R	'	28	21
6	95	883	y	H	R		28	21
6	96	884	stones	M	D	/	28	21
6	96	885	stones	L	D	/	28	21
6	97	886	be	L	R		29	21
6	98	887	neath	M	U	'	29	21
6	99	888	my	L	D		29	21
6	100	889	feet	L	U	/	29	21
6	100	890	feet	B	D	/	29	21
6	101	891	Thus	M	U	'	30	22
6	102	892	much	M	R	/	30	22
6	103	893	I	L	D		30	22
6	104	894	know	L	R	/	30	22
6	104	895	know	M	U	/	30	22
6	105	896	that	L	D	/	31	23
6	105	897	that	M	U	/	31	23
6	106	898	a	L	D		32	24
6	107	899	poor	L	U	/	32	24
6	108	900	wit	L	R	/	32	24
6	109	901	less	L	D		32	24
6	110	902	elf	L	U	/	32	24
6	111	903	I	M	U		33	25
6	112	904	tread	M	R	/	33	25
6	113	905	on	L	D		33	25
6	114	906	them	L	R		33	25
6	115	907	that	L	R		34	26
6	116	908	all	H	U	/	34	26
6	117	909	my	H	R		34	26
6	118	910	eye	L	D	/	34	26
6	119	911	doth	L	D		35	26
6	120	912	meet	M	U	/	35	26
6	121	913	Is	L	D		36	27
6	122	914	mist	M	U	/	36	27
6	123	915	and	M	R		37	27
6	124	916	crag	M	R	/	37	27
6	124	917	crag	L	D	/	37	27

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
6	125	918	not	H	U		38	28
6	126	919	on	L	D	/	38	28
6	127	920	ly	L	D		38	28
6	128	921	on	L	R		38	28
6	129	922	this	H	U	/	38	28
6	130	923	height	L	D	/	38	28
6	131	924	But	L	D		39	29
6	132	925	in	L	U	/	39	29
6	133	926	the	L	R		39	29
6	134	927	world	L	D	/	39	29
6	134	928	world	L	D	/	39	29
6	135	929	of	L	U		40	29
6	136	930	thought	L	U	/	40	29
6	136	931	thought	L	D	/	40	29
6	137	932	and	L	U		41	30
6	138	933	men	L	D	/	41	30
6	139	934	tal	L	R		41	30
6	140	935	might	L	U	/	41	30
6	140	936	might	B	D	/	41	30
7	1	937	Read	H	#	/	1	1
7	2	938	me	H	R		1	1
7	3	939	a	H	R		1	1
7	4	940	less	M	D	/	1	1
7	5	941	on	L	D		1	1
7	6	942	Muse	L	R	/	2	1
7	6	943	Muse	L	U	/	2	1
7	7	944	and	L	D		3	2
7	8	945	speak	L	U	/	3	2
7	9	946	it	L	D		3	2
7	10	947	loud	M	U	/	3	2
7	11	948	U	L	D		3	2
7	12	949	pon	M	U		3	2
7	13	950	the	L	D		3	2
7	14	951	top	M	U	/	3	2
7	15	952	of	M	R		3	2
7	16	953	Nev	L	D	/	3	2
7	17	954	is	L	D		3	2
7	18	955	blind	L	U	/	4	3
7	19	956	in	L	R		4	3
7	20	957	mist	L	D	/	4	3
7	21	958	I	L	U		5	4
7	22	959	look	M	U	/	5	4
7	23	960	in	M	R		5	4
7	24	961	to	L	D		5	4
7	25	962	the	L	R		5	4
7	26	963	cha	M	U	/	5	4
7	27	964	sms	L	D		5	4
7	28	965	and	L	U		6	5
7	29	966	a	L	R		6	5
7	30	967	shroud	M	U	/	6	5
7	30	968	shroud	L	D	/	6	5
7	31	969	Va	M	U	/	6	5
7	32	970	porous	L	D		6	5
7	33	971	doth	L	U		7	6
7	34	972	hide	M	U	/	7	6
7	35	973	them	L	D		7	6
7	36	974	just	T	U	/	8	7
7	37	975	so	H	D		8	7
7	38	976	much	H	D	/	8	7
7	39	977	I	L	D		8	7
7	40	978	wist	L	D	/	8	7

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
7	41	979	Man	L	R		9	7
7	42	980	kind	L	R	/	9	7
7	43	981	do	L	R		9	7
7	44	982	know	L	R	/	9	7
7	45	983	of	L	R		9	7
7	46	984	Hell	L	R	/	9	7
7	46	985	Hell	L	D	/	9	7
7	47	986	I	M	U		10	8
7	48	987	look	H	U	/	10	8
7	49	988	o'er	M	D		10	8
7	50	989	head	H	U	/	10	8
7	50	990	head	L	D	/	10	8
7	51	991	And	L	R		11	9
7	52	992	there	L	R		11	9
7	53	993	is	L	R		11	9
7	54	994	su	M	U	/	11	9
7	55	995	llen	M	R		11	9
7	56	996	mist	B	D	/	11	9
7	57	997	e	L	U	/	12	10
7	58	998	ven	L	D		12	10
7	59	999	so	L	R		12	10
7	60	1000	much	L	R	/	12	10
7	61	1001	Man	L	R		13	10
7	62	1002	kind	L	U	/	13	10
7	63	1003	can	L	R		13	10
7	64	1004	tell	M	U	/	13	10
7	65	1005	of	M	R		14	10
7	66	1006	Hea	H	U	/	14	10
7	67	1007	ven	B	D		14	10
7	68	1008	Mist	H	U	/	15	11
7	69	1009	is	L	D		16	11
7	70	1010	spread	H	U	/	16	11
7	71	1011	Be	L	D		17	11
7	72	1012	fore	M	U	/	17	11
7	73	1013	the	M	R		17	11
7	74	1014	earth	L	D	/	17	11
7	75	1015	be	L	R		18	12
7	76	1016	neath	M	U	/	18	12
7	77	1017	me	L	D		18	12
7	78	1018	ev	L	U	/	19	13
7	79	1019	en	L	R		19	13
7	80	1020	such	L	D	/	19	13
7	81	1021	Ev	H	U	/	20	14
7	82	1022	en	H	R		20	14
7	83	1023	so	M	D		20	14
7	84	1024	vague	H	U	/	20	14
7	84	1025	vague	L	D	/	20	14
7	85	1026	is	L	U		21	15
7	86	1027	man's	M	U	"	21	15
7	87	1028	sight	H	U	/	21	15
7	88	1029	of	L	D		21	15
7	89	1030	him	L	R		21	15
7	90	1031	self	H	U	/	21	15
7	90	1032	self	L	D	/	21	15
7	91	1033	Here	H	U	/	22	16
7	91	1034	Here	L	D	/	22	16
7	92	1035	are	L	D		22	16
7	93	1036	the	L	R		22	16
7	94	1037	cragg	H	U	/	22	16
7	95	1038	y	H	R		22	16
7	96	1039	stones	L	D	/	22	16

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
7	97	1040	be	L	R		23	16
7	98	1041	neath	L	D	/	23	16
7	99	1042	my	L	R		23	16
7	100	1043	feet	L	D	/	23	16
7	101	1044	Thus	L	U	/	24	17
7	102	1045	much	L	D		24	17
7	103	1046	I	L	R		24	17
7	104	1047	know	L	U	/	24	17
7	104	1048	know	L	D	/	24	17
7	105	1049	that	M	U		25	18
7	106	1050	a	H	U		25	18
7	107	1051	poor	H	U	/	25	18
7	108	1052	wit	H	D	/	25	18
7	109	1053	less	H	R		25	18
7	110	1054	elf	L	D	/	25	18
7	111	1055	I	M	U		26	19
7	112	1056	tread	L	D	/	26	19
7	112	1057	tread	L	D	/	26	19
7	113	1058	on	L	R		26	19
7	114	1059	them	L	R		26	19
7	115	1060	that	M	U		27	20
7	116	1061	all	H	U	/	27	20
7	117	1062	my	H	R		27	20
7	118	1063	eye	M	D	/	27	20
7	119	1064	doth	L	D		28	20
7	120	1065	meet	M	U	/	28	20
7	121	1066	Is	L	D		29	21
7	122	1067	mist	H	U	/	29	21
7	123	1068	and	L	D		30	21
7	124	1069	crag	B	D	/	30	21
7	125	1070	not	H	U		31	22
7	126	1071	on	H	D	/	31	22
7	127	1072	ly	M	D		31	22
7	128	1073	on	L	D		31	22
7	129	1074	this	H	U	/	31	22
7	130	1075	height	L	D	/	31	22
7	131	1076	But	L	R		32	23
7	132	1077	in	M	U	'	32	23
7	133	1078	the	M	R		32	23
7	134	1079	world	H	U	/	32	23
7	135	1080	of	L	D		32	23
7	136	1081	thought	H	U	/	32	23
7	137	1082	and	L	D		33	24
7	138	1083	men	L	U	/	33	24
7	139	1084	tal	L	R		33	24
7	140	1085	might	L	D	/	33	24
8	1	1086	Read	T	#	/	1	1
8	2	1087	me	T	R		1	1
8	3	1088	a	T	R		1	1
8	4	1089	less	H	D	/	1	1
8	5	1090	on	L	D		1	1
8	6	1091	Muse	L	R	/	1	1
8	6	1092	Muse	L	D	/	1	1
8	7	1093	and	L	R		2	2
8	8	1094	speak	H	U	/	2	2
8	9	1095	it	H	R		2	2
8	10	1096	loud	M	D	/	2	2
8	10	1097	loud	L	D	/	2	2
8	11	1098	U	L	R		3	3
8	12	1099	pon	M	U	/	3	3
8	13	1100	the	M	R		3	3

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
8	14	1101	top	M	R	'	3	3
8	15	1102	of	M	R		3	3
8	16	1103	Nev	M	R	/	3	3
8	17	1104	is	L	D		3	3
8	18	1105	blind	M	U	/	4	4
8	19	1106	in	L	D		4	4
8	20	1107	mist	L	U	/	4	4
8	21	1108	I	L	D		5	5
8	22	1109	look	M	U	/	5	5
8	23	1110	in	M	R		5	5
8	24	1111	to	M	R	'	5	5
8	25	1112	the	M	R		5	5
8	26	1113	cha	M	R	/	5	5
8	27	1114	sms	B	D		5	5
8	28	1115	and	L	U	'	6	6
8	29	1116	a	L	R		6	6
8	30	1117	shroud	M	U	/	6	6
8	31	1118	Va	M	R	/	6	6
8	32	1119	porous	L	D		6	6
8	33	1120	doth	L	U		7	7
8	34	1121	hide	M	U	/	7	7
8	35	1122	them	B	D		7	7
8	36	1123	just	L	U	'	8	8
8	37	1124	so	L	R		8	8
8	38	1125	much	M	U	/	8	8
8	39	1126	I	L	D		8	8
8	40	1127	wist	L	R	/	8	8
8	41	1128	Man	L	U		9	9
8	42	1129	kind	L	R	/	9	9
8	43	1130	do	L	R		9	9
8	44	1131	know	L	D	'	9	9
8	45	1132	of	L	R		9	9
8	46	1133	Hell	L	U	/	9	9
8	47	1134	I	L	R		10	10
8	48	1135	look	H	U	/	10	10
8	49	1136	o'er	H	R		10	10
8	50	1137	head	H	U	/	10	10
8	51	1138	And	M	D		11	11
8	52	1139	there	H	U	/	11	11
8	53	1140	is	H	R		11	11
8	54	1141	su	H	R	/	11	11
8	55	1142	llen	H	R		11	11
8	56	1143	mist	H	U	/	11	11
8	57	1144	e	L	D	/	12	12
8	58	1145	ven	L	R		12	12
8	59	1146	so	L	R		12	12
8	60	1147	much	H	U	/	12	12
8	61	1148	Man	L	D		13	13
8	62	1149	kind	M	U	/	13	13
8	63	1150	can	L	D		13	13
8	64	1151	tell	M	U	'	13	13
8	65	1152	of	L	D		13	13
8	66	1153	Hea	M	U	/	13	13
8	67	1154	ven	B	D		13	13
8	68	1155	Mist	M	U	'	14	14
8	69	1156	is	M	R		14	14
8	70	1157	spread	H	U	/	14	14
8	71	1158	Be	M	D		14	14
8	72	1159	fore	M	R	'	14	14
8	73	1160	the	M	R		14	14
8	74	1161	earth	L	D	/	14	14

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
8	74	1162	earth	L	D	/	14	14
8	75	1163	be	L	R		15	15
8	76	1164	neath	L	U	/	15	15
8	77	1165	me	L	D		15	15
8	78	1166	ev	L	U	/	16	16
8	79	1167	en	L	R		16	16
8	80	1168	such	L	D	/	16	16
8	81	1169	Ev	L	U	/	17	17
8	82	1170	en	L	R		17	17
8	83	1171	so	L	D		17	17
8	84	1172	vague	L	U	/	17	17
8	84	1173	vague	B	D	/	17	17
8	85	1174	is	L	D		18	18
8	86	1175	man's	L	U	/	18	18
8	87	1176	sight	L	D	'	18	18
8	88	1177	of	L	R		18	18
8	89	1178	him	L	R		18	18
8	90	1179	self	L	U	/	18	18
8	90	1180	self	B	D	/	18	18
8	91	1181	Here	M	U	/	19	19
8	92	1182	are	M	R		19	19
8	93	1183	the	M	R		19	19
8	94	1184	cragg	L	D	'	19	19
8	95	1185	y	L	R		19	19
8	96	1186	stones	L	D	/	19	19
8	96	1187	stones	B	D	/	19	19
8	97	1188	be	L	U		20	20
8	98	1189	neath	L	R	'	20	20
8	99	1190	my	L	R		20	20
8	100	1191	feet	L	R	/	20	20
8	100	1192	feet	B	D	/	20	20
8	101	1193	Thus	M	U	/	21	21
8	102	1194	much	L	D		21	21
8	103	1195	I	L	R		21	21
8	104	1196	know	M	U	/	21	21
8	104	1197	know	B	D	/	21	21
8	105	1198	that	L	U	/	22	22
8	106	1199	a	L	D		23	22
8	107	1200	poor	L	R	'	23	22
8	108	1201	wit	L	R	/	23	22
8	109	1202	less	L	R		23	22
8	110	1203	elf	M	U	/	23	22
8	110	1204	elf	L	D	/	23	22
8	111	1205	I	L	U		24	23
8	112	1206	tread	M	U	/	24	23
8	113	1207	on	L	D		24	23
8	114	1208	them	L	R	'	24	23
8	115	1209	that	L	U		25	24
8	116	1210	all	H	U	/	25	24
8	117	1211	my	H	R		25	24
8	118	1212	eye	H	R	/	25	24
8	118	1213	eye	L	D	/	25	24
8	119	1214	doth	L	D		25	24
8	120	1215	meet	H	U	/	25	24
8	121	1216	Is	L	D		26	25
8	122	1217	mist	M	U	/	26	25
8	123	1218	and	M	R		26	25
8	124	1219	crag	L	D	/	26	25
8	124	1220	crag	L	D	/	26	25
8	125	1221	not	L	U		27	26
8	126	1222	on	M	U	/	27	26

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
8	127	1223	ly	M	R		27	26
8	128	1224	on	L	D		27	26
8	129	1225	this	L	D		27	26
8	130	1226	height	M	U	/	27	26
8	130	1227	height	L	D	/	27	26
8	131	1228	But	L	R		28	27
8	132	1229	in	M	U	/	28	27
8	133	1230	the	M	R		28	27
8	134	1231	world	L	D	/	28	27
8	135	1232	of	L	D		28	27
8	136	1233	thought	M	U	/	28	27
8	136	1234	thought	L	D	/	28	27
8	137	1235	and	L	U		29	28
8	138	1236	men	L	U	/	29	28
8	139	1237	tal	L	D		29	28
8	140	1238	might	L	U	/	29	28
8	140	1239	might	B	D	/	29	28
9	1	1240	Read	T	#	/	1	1
9	2	1241	me	T	R		1	1
9	3	1242	a	T	R		1	1
9	4	1243	less	H	D	/	1	1
9	5	1244	on	H	R		1	1
9	6	1245	Muse	M	D	/	2	1
9	7	1246	and	M	R		3	2
9	8	1247	speak	M	R	/	3	2
9	9	1248	it	M	R		3	2
9	10	1249	loud	M	R	/	3	2
9	11	1250	U	M	R		4	2
9	12	1251	pon	M	R	/	4	2
9	13	1252	the	M	R		4	2
9	14	1253	top	M	R	'	4	2
9	15	1254	of	M	R		4	2
9	16	1255	Nev	M	R	/	4	2
9	17	1256	is	L	D		4	2
9	18	1257	blind	M	U	/	5	3
9	19	1258	in	M	R		5	3
9	20	1259	mist	M	R	/	5	3
9	21	1260	I	M	R		6	4
9	22	1261	look	H	U	/	6	4
9	23	1262	in	H	R		6	4
9	24	1263	to	H	R		6	4
9	25	1264	the	H	R		6	4
9	26	1265	cha	H	R	/	6	4
9	27	1266	sms	M	D		6	4
9	28	1267	and	M	R		7	5
9	29	1268	a	M	R		7	5
9	30	1269	shroud	H	U	/	7	5
9	31	1270	Va	H	R	/	7	5
9	32	1271	porous	M	D		7	5
9	33	1272	doth	M	R		8	6
9	34	1273	hide	H	U	/	8	6
9	35	1274	them	B	D		8	6
9	36	1275	just	M	U	/	9	7
9	37	1276	so	M	R		9	7
9	38	1277	much	M	R	'	9	7
9	39	1278	I	M	R		9	7
9	40	1279	wist	M	R	/	9	7
9	41	1280	Man	M	R		10	7
9	42	1281	kind	M	R	/	10	7
9	42	1282	kind	L	D	/	10	7
9	43	1283	do	L	D		11	7

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
9	44	1284	know	L	R	'	11	7
9	45	1285	of	L	R		11	7
9	46	1286	Hell	M	U	/	11	7
9	46	1287	Hell	L	D	/	11	7
9	47	1288	I	L	U		12	8
9	48	1289	look	M	U	/	12	8
9	49	1290	o'er	L	D		12	8
9	49	1291	o'er	L	D		12	8
9	50	1292	head	M	U	/	12	8
9	51	1293	And	L	D		13	9
9	52	1294	there	L	U	/	13	9
9	53	1295	is	L	R		13	9
9	54	1296	su	L	R	/	13	9
9	55	1297	llen	L	R		13	9
9	56	1298	mist	M	U	/	13	9
9	57	1299	e	M	R	/	14	10
9	58	1300	ven	M	R		14	10
9	59	1301	so	M	R		14	10
9	60	1302	much	M	R	/	14	10
9	61	1303	Man	L	D		15	10
9	62	1304	kind	L	R	/	15	10
9	62	1305	kind	L	D	/	15	10
9	63	1306	can	L	R		16	10
9	64	1307	tell	L	R	'	16	10
9	65	1308	of	L	R		16	10
9	66	1309	Hea	L	U	/	16	10
9	67	1310	ven	L	R		16	10
9	68	1311	Mist	M	U	/	17	11
9	69	1312	is	M	R		17	11
9	70	1313	spread	M	R	/	17	11
9	71	1314	Be	L	D		18	11
9	72	1315	fore	L	R	'	18	11
9	73	1316	the	L	R		18	11
9	74	1317	earth	L	R	/	18	11
9	75	1318	be	L	R		19	12
9	76	1319	neath	L	R	/	19	12
9	77	1320	me	L	R	/	19	12
9	78	1321	ev	L	R	'	20	13
9	79	1322	en	L	R		20	13
9	80	1323	such	L	U	/	20	13
9	81	1324	Ev	L	D	'	21	14
9	82	1325	en	L	R		21	14
9	83	1326	so	L	U	/	21	14
9	84	1327	vague	L	D	/	22	15
9	85	1328	is	L	R		23	15
9	86	1329	man's	L	R	'	23	15
9	87	1330	sight	L	R	/	23	15
9	88	1331	of	L	R		23	15
9	89	1332	him	L	R		23	15
9	90	1333	self	L	R	/	23	15
9	91	1334	Here	H	U	/	24	16
9	92	1335	are	H	R		24	16
9	93	1336	the	H	R		24	16
9	94	1337	cragg	H	R	'	24	16
9	95	1338	ly	H	R		24	16
9	96	1339	stones	L	D	/	24	16
9	96	1340	stones	L	D	/	24	16
9	97	1341	be	L	R		25	17
9	98	1342	neath	L	R	'	25	17
9	99	1343	my	L	R		25	17
9	100	1344	feet	L	U	/	25	17

Reader	Syllable key	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
9	101	1345	Thus	L	D	/	26	18
9	102	1346	much	L	R		26	18
9	103	1347	I	L	R		26	18
9	104	1348	know	L	U	/	26	18
9	105	1349	that	L	R	/	27	18
9	106	1350	a	L	D		28	19
9	107	1351	poor	L	D	/	28	19
9	108	1352	wit	L	R		28	19
9	109	1353	less	L	R		28	19
9	110	1354	elf	L	D	/	28	19
9	111	1355	I	L	U		29	20
9	112	1356	tread	L	U	/	29	20
9	113	1357	on	L	D		29	20
9	114	1358	them	L	D		29	20
9	115	1359	that	L	U		30	21
9	116	1360	all	L	U	/	30	21
9	117	1361	my	L	R		30	21
9	118	1362	eye	L	R	/	30	21
9	119	1363	doth	L	R		30	21
9	120	1364	meet	L	D	/	30	21
9	121	1365	Is	L	R		31	21
9	122	1366	mist	L	R	/	31	21
9	123	1367	and	L	R		31	21
9	124	1368	crag	L	D	/	31	21
9	125	1369	not	L	U		32	22
9	126	1370	on	L	R	/	32	22
9	127	1371	ly	L	R		32	22
9	128	1372	on	L	D		32	22
9	129	1373	this	L	D		32	22
9	130	1374	height	L	U	/	32	22
9	131	1375	But	L	D		33	23
9	132	1376	in	L	R	'	33	23
9	133	1377	the	L	R		33	23
9	134	1378	world	L	R	/	33	23
9	135	1379	of	L	R		34	23
9	136	1380	thought	L	R	/	34	23
9	137	1381	and	L	R		35	23
9	138	1382	men	L	D	/	35	23
9	139	1383	tal	L	R		35	23
9	140	1384	might	L	R	/	35	23

Reader	NG No
1	7
1	18
2	8
2	11
2	29
2	30
3	3
3	5
3	10
3	27
4	11
4	13
4	17
4	32
5	26
6	36
7	13
7	15
7	22
7	27
9	17
9	22
9	33

Reader	Tune No	Code	Subdivision
1	1	A	1a
1	2	D	1
1	3	A	2a
1	4	A	3
1	5	A	3
1	6	A	1a
1	7	A	1c
1	8	A	1c
1	9	B	2a
1	10	A	1c
1	11	A	1c
1	12	B	1a
1	13	C	2
1	14	A	2a
1	15	A	2a
1	16	A	4a
1	17	A	1c
1	18	A	2c
1	19	B	2a
1	20	F	
1	21	E	1
1	22	A	1a
1	23	B	2a
1	24	A	2a
1	25	B	1c
1	26	A	1c
1	27	A	1c
2	1	A	1a
2	2	A	2a
2	3	A	2a
2	4	F	
2	5	A	2a
2	6	A	2a
2	7	A	2a
2	8	A	1b
2	9	B	2a
2	10	A	2a
2	11	A	1a
2	12	A	2b
2	13	A	1a
2	14	B	2b
2	15	D	2b
2	16	E	2
2	17	A	2a
2	18	A	1a
2	19	B	2a
2	20	A	2a
2	21	A	4a
2	22	B	1b
2	23	A	1c
2	24	A	1c
2	25	A	4a
3	1	B	2a
3	2	A	2b
3	3	A	1a
3	4	A	2a
3	5	A	1a
3	6	A	3
3	7	A	2a
3	8	A	1c
3	9	A	1c

Reader	Tune No	Code	Subdivision
3	10	A	1a
3	11	B	2a
3	12	D	1
3	13	A	2b
3	14	A	3
3	15	A	2a
3	16	A	2a
3	17	D	1
3	18	A	1c
3	19	B	1c
3	20	A	1a
3	21	A	2a
3	22	A	1a
3	23	A	1c
3	24	A	1c
3	25	A	1c
3	26	A	4a
4	1	A	2a
4	2	D	2b
4	3	B	3
4	4	A	2a
4	5	A	2a
4	6	A	2a
4	7	B	1a
4	8	A	2a
4	9	B	2a
4	10	A	2a
4	11	A	1c
4	12	A	2a
4	13	A	3
4	14	A	2a
4	15	A	2a
4	16	A	1a
4	17	A	1a
4	18	A	1a
4	19	A	2a
4	20	A	1a
4	21	B	1a
4	22	A	1a
4	23	A	1c
4	24	A	1a
4	25	A	1a
5	1	A	2a
5	2	A	2a
5	3	A	2b
5	4	A	1a
5	5	A	2a
5	6	A	3
5	7	A	1c
5	8	B	1a
5	9	A	2b
5	10	A	1a
5	11	D	1
5	12	C	1
5	13	A	2b
5	14	C	1
5	15	C	1
5	16	A	3
5	17	A	2a
5	18	A	2a
5	19	A	1c

Reader	Tune No	Code	Subdivision
5	20	A	1a
5	21	A	2a
5	22	D	2a
5	23	A	2a
5	24	F	
5	25	B	4
5	26	B	2b
5	27	B	4
5	28	A	2b
6	1	B	2a
6	2	A	2a
6	3	A	2a
6	4	A	3
6	5	A	3
6	6	B	4
6	7	A	1c
6	8	A	3
6	9	B	2b
6	10	A	4c
6	11	B	2b
6	12	A	1c
6	13	A	1a
6	14	A	2b
6	15	A	1c
6	16	A	3
6	17	A	2a
6	18	A	2a
6	19	A	2a
6	20	A	2a
6	21	A	1c
6	22	B	2a
6	23	C	2
6	24	B	2a
6	25	A	2a
6	26	B	4
6	27	A	2a
6	28	A	1c
6	29	A	1c
6	30	A	1c
7	1	B	2a
7	2	A	2b
7	3	A	2a
7	4	A	1c
7	5	A	1c
7	6	A	3
7	7	A	1a
7	8	A	1c
7	9	A	2a
7	10	D	1
7	11	A	2b
7	12	A	3
7	13	A	2a
7	14	A	1c
7	15	A	1c
7	16	A	1c
7	17	A	1c
7	18	A	1a
7	19	A	4a
7	20	B	1a
7	21	A	1a
7	22	A	1c

Reader	Tune No	Code	Subdivision
7	23	E	1
7	24	A	2a
8	1	A	1a
8	2	A	2a
8	3	A	2a
8	4	B	3
8	5	A	2a
8	6	A	2a
8	7	A	2a
8	8	A	2c
8	9	B	4
8	10	C	1
8	11	C	1
8	12	C	1
8	13	A	2b
8	14	D	2a
8	15	A	3
8	16	A	2a
8	17	A	1c
8	18	A	4c
8	19	A	1a
8	20	A	2a
8	21	A	4c
8	22	A	4c
8	23	A	4a
8	24	B	1a
8	25	A	2a
8	26	A	1c
8	27	A	1c
8	28	A	1c
9	1	A	1a
9	2	A	2a
9	3	F	
9	4	A	2a
9	5	A	2a
9	6	A	3
9	7	A	1c
9	8	B	2a
9	9	C	1
9	10	B	4
9	11	A	4a
9	12	F	
9	13	C	1
9	14	C	1
9	15	F	
9	16	A	2a
9	17	C	1
9	18	C	1
9	19	A	1a
9	20	A	1a
9	21	A	1a
9	22	B	1a
9	23	A	2a

Tune type	Initial rise	Fall	Final rise
A	No	Yes	No
B	No	Yes	Yes
C	No	No	Yes
D	Yes	Yes	No
E	Yes	Yes	Yes
F	No	No	No

ID	Syllable	Stress	Reduc	Linestatu	Boundaries
1	The	/	w	#	#
2	fur	/	s		$
3	ther	x	w		/
4	off	/	s		/
5	peo	/	s		$
6	ple	x	w		/
7	are	/	w		#
8	the	/	w		#
9	small	/	s		$
10	er	x	w		/
11	Grand	/	s		$
12	pa	/	s		$
13	rents	x	w	/	/
14	Ho	x	w	#	$
15	me	/	s		$
16	ric	x	w		/
17	he	/	s		$
18	roes	x	w		/
19	and	/	w		#
20	suff	/	s		$
21	e	x	w		$
22	ring	x	w		/
23	Ban	/	s		$
24	tu	/	w	/	/
25	Are	/	w	#	#
26	no	/	s		$
27	thing	x	w		/
28	in	/	w		#
29	size	/	s		/
30	to	/	w		#
31	the	/	w		#
32	tax	/	s		/
33	co	x	w		$
34	llect	/	s		$
35	or	x	w	/	/
36	Or	/	w	#	#
37	the	/	w		#
38	dent	/	s		$
39	ist	x	w		/
40	breath	/	s		$
41	ing	x	w		/
42	fire	/	s		/
43	on	/	w		#
44	one's	/	s		/
45	uv	/	s		$
46	u	x	w		$
47	la	x	w	/	/
48	So	/	w	#	#
49	the	/	w		#
50	stunt	/	s		$
51	ed	x	w		/
52	com	x	w		$
53	miss	/	s		$
54	on	x	w		$
55	aire	/	s		/
56	bulks	/	s		/
57	larg	/	s		$
58	er	x	w	/	/
59	Than	/	w	#	#
60	the	/	w		#
61	mass	/	s		$

ID	Syllable	Stress	Reduc	Linestatu	Boundaries
62	ive	x	w		/
63	mag	/	s		$
64	nate	x	w		/
65	at	/	w		#
66	the	/	w		#
67	turn	/	s		/
68	of	/	w		#
69	the	/	w		#
70	stairs	/	s	/	/
71	While	/	w	#	#
72	the	/	w		#
73	coff	/	s		$
74	in	x	w		/
75	ent	/	s		$
76	er	x	w		$
77	ing	x	w		/
78	by	/	w		#
79	the	/	w		#
80	west	/	s		/
81	door	/	s	/	/
82	Screens	/	s	#	/
83	the	/	w		#
84	chan	/	s		$
85	cel	x	w		/
86	and	/	w		#
87	dwarfs	/	s		/
88	the	/	w		#
89	al	/	s		$
90	tar	x	w	/	/
91	Yet	/	s	#	/
92	some	/	s		$
93	times	/	s		/
94	for	/	w		#
95	all	/	s		/
96	these	/	s		#
97	rules	/	s		/
98	of	/	w		#
99	per	x	w		$
100	spec	/	s		$
101	tive	x	w	/	/
102	The	/	w	#	#
103	weak	/	s		/
104	eye	/	s		/
105	zooms	/	s		/
106	the	/	w		#
107	dis	/	s		$
108	tant	x	w		/
109	midg	/	s		$
110	et	x	w	/	/
111	Ex	x	w	#	$
112	pands	/	s		/
113	to	/	w		#
114	meet	/	s		#
115	it	/	w		/
116	far	/	s		/
117	up	/	w		#
118	stage	/	s	/	/
119	The	/	w	#	#
120	kings	/	s		/
121	go	/	s		/
122	tow	/	s		$

ID	Syllable	Stress	Reduc	Linestatu	Boundaries
123	er	x	w		$
124	ing	x	w		/
125	in	/	s		$
126	to	x	w		/
127	the	/	w		#
128	flies	/	s	/	/
129	And	/	w	#	#
130	down	/	s		/
131	at	/	w		#
132	the	/	w		#
133	end	/	s		/
134	of	/	w		#
135	a	/	w		#
136	queue	/	s		/
137	some	/	s		/
138	in	/	s		$
139	fant	x	w	/	/
140	Of	/	w	#	#
141	the	/	w		#
142	year	/	s		/
143	Two	/	s		/
144	Thou	/	s		$
145	sand	x	w		/
146	strad	/	s		$
147	dles	x	w		/
148	the	/	w		#
149	world	/	s	/	/
150	To	/	w	#	#
151	match	/	s		/
152	the	/	w		#
153	child	/	s		/
154	that	/	w		#
155	was	/	w		#
156	once	/	s		/
157	your	x	w		$
158	self	/	s	/	/
159	The	/	w	#	#
160	fur	/	s		$
161	ther	x	w		/
162	off	/	s		/
163	peo	/	s		$
164	ple	x	w		/
165	are	/	w		#
166	some	/	s		$
167	times	/	s		/
168	the	/	w		#
169	larg	/	s		$
170	er	x	w	/	/

MacNeice: *Discontinuities* table (syllables added from *Text* table for ease of following)

Reader	Syllable k	Syllable	Pause	Length	Pitch reset	Segmenta	NG Boun	Tune Bour
10	6	ple	/	No	9	No	Yes	Yes
10	10	er	/	No	11	Yes	Yes	Yes
10	13	rents	/	No	14	No	Yes	Yes
10	18	roes	/	No	20	Yes	Yes	Yes
10	24	tu		No	26	No	Yes	Yes
10	29	size		No	32	No	No	No
10	35	or	/	No	38	No	Yes	Yes
10	39	ist		No	42	Yes	Yes	Yes
10	42	fire		Yes	45	No	Yes	Yes
10	47	la	/	No	48	No	Yes	Yes
10	48	So		Yes		No	Yes	No
10	51	ed		No		Yes	No	No
10	55	aire		No	57	No	Yes	Yes
10	58	er		No	61	No	Yes	Yes
10	62	ive		No	63	No	No	No
10	64	nate		No	67	No	Yes	Yes
10	67	turn		No	70	No	No	No
10	70	stairs	/	No	73	Yes	Yes	Yes
10	74	in		No	75	No	No	No
10	81	door		No	82	No	Yes	Yes
10	82	Screens		Yes	85	Yes	Yes	Yes
10	85	cel	/	No	87	No	Yes	Yes
10	87	dwarfs		Yes	89	No	Yes	Yes
10	90	tar	/	No	91	No	Yes	Yes
10	93	times		No	95	No	Yes	Yes
10	101	tive		No	103	No	Yes	Yes
10	105	zooms	/	Yes	107	Yes	Yes	Yes
10	110	et		No	112	Yes	Yes	Yes
10	115	it	/	No	116	Yes	Yes	Yes
10	118	stage		Yes	120	Yes	Yes	Yes
10	120	kings		Yes	122	Yes	Yes	No
10	124	ing		Yes	128	No	Yes	No
10	128	flies	/	No	130	Yes	Yes	Yes
10	136	queue	/	No	137	No	Yes	Yes
10	142	year		No	143	No	No	No
10	145	sand		No	146	No	Yes	Yes
10	149	world		Yes	151	No	Yes	Yes
10	153	child		Yes	156	No	Yes	Yes
10	158	self	/	No	160	No	Yes	Yes
10	164	ple	/	No	166	No	Yes	Yes
10	167	times		Yes	169	No	Yes	No
11	6	ple	/	No		No	Yes	No
11	10	er	/	No	11	Yes	Yes	Yes
11	13	rents	/	No	14	No	Yes	Yes
11	18	roes	/	Yes	20	Yes	Yes	Yes
11	24	tu	/	No	26	No	Yes	Yes
11	27	thing		No	29	No	Yes	No
11	29	size		No	30	No	No	No
11	35	or	/	No	35	No	Yes	Yes
11	39	ist		No	40	No	Yes	No
11	42	fire		Yes		No	Yes	No
11	47	la	/	No	50	No	Yes	Yes
11	55	aire		Yes	57	No	Yes	No
11	58	er	/	No	61	No	Yes	Yes
11	62	ive		No	63	No	No	No
11	64	nate		No	67	No	Yes	No
11	70	stairs	/	Yes	71	Yes	Yes	Yes
11	74	in	/	No	75	Yes	Yes	Yes
11	77	ing		No	78	No	No	No
11	81	door		No	82	No	Yes	Yes
11	85	cel	/	No	87	No	Yes	Yes
11	90	tar	/	No	92	No	Yes	Yes

Reader	Syllable k	Syllable	Pause	Length	Pitch reset	Segmenta	NG Boun	Tune Bour
11	93	times	/	No	95	No	Yes	Yes
11	101	tive	/	No	103	No	Yes	Yes
11	105	zooms	/	No	109	Yes	Yes	Yes
11	110	et		Yes	111	No	Yes	Yes
11	115	it	/	No	116	No	Yes	Yes
11	118	stage		Yes	120	Yes	Yes	Yes
11	120	kings		Yes	121	No	Yes	No
11	124	ing	/	Yes	125	No	Yes	No
11	128	flies	/	No	130	Yes	Yes	Yes
11	136	queue	/	No	137	No	Yes	Yes
11	139	fant		Yes	140	No	Yes	Yes
11	145	sand		Yes	146	No	Yes	Yes
11	149	world	/	No	151	No	Yes	Yes
11	158	self	/	No	160	No	Yes	Yes
11	164	ple	/	No		No	Yes	No
11	167	times	/	Yes		Yes	Yes	No
12	4	off	/	No	5	No	Yes	No
12	7	are	/	No		Yes	Yes	Yes
12	10	er	/	No	11	Yes	Yes	Yes
12	13	rents		No	15	No	Yes	Yes
12	18	roes		No	20	Yes	Yes	Yes
12	24	tu		No	26	No	Yes	Yes
12	27	thing	/	No		No	Yes	No
12	29	size		Yes	30	No	Yes	Yes
12	35	or	/	No	36	No	Yes	Yes
12	39	ist		Yes		No	Yes	Yes
12	42	fire		Yes	43	No	Yes	Yes
12	47	la	/	No	48	No	Yes	Yes
12	55	aire		No		No	Yes	No
12	56	bulks		Yes		No	No	No
12	58	er		No	61	No	Yes	Yes
12	64	nate		No		No	Yes	No
12	70	stairs	/	No	73	Yes	Yes	Yes
12	74	in	/	No	75	No	Yes	Yes
12	81	door	/	No	82	No	Yes	Yes
12	82	Screens		Yes		Yes	No	No
12	85	cel		No	87	No	Yes	Yes
12	87	dwarfs		Yes		No	No	No
12	90	tar	/	No	91	No	Yes	Yes
12	91	Yet	/	No		No	Yes	No
12	93	times		No	95	No	Yes	Yes
12	96	these	/	No		Yes	No	No
12	97	rules		Yes		No	No	No
12	101	tive	/	No	103	Yes	Yes	Yes
12	105	zooms		No	107	Yes	Yes	Yes
12	110	et		No		No	Yes	No
12	115	it	/	No	116	No	Yes	Yes
12	116	far		Yes		No	No	No
12	118	stage		No	120	Yes	Yes	No
12	121	go	/	No	122	No	Yes	Yes
12	124	ing		Yes	128	No	Yes	No
12	128	flies	/	No	130	Yes	Yes	Yes
12	130	down		Yes	131	No	Yes	No
12	133	end		Yes	134	No	Yes	No
12	136	queue		Yes		No	Yes	Yes
12	137	some		Yes		No	No	No
12	139	fant		No	140	No	Yes	No
12	145	sand		No	146	No	Yes	Yes
12	149	world	/	Yes	151	No	Yes	Yes
12	151	match		Yes		No	No	No
12	153	child		Yes	156	No	Yes	Yes
12	158	self	/	No	160	No	Yes	Yes

Reader	Syllable k	Syllable	Pause	Length	Pitch reset	Segmenta	NG Boun	Tune Bour
12	162	off	/	Yes		No	No	No
12	164	ple	/	No	166	No	Yes	Yes
12	167	times	/	Yes	169	Yes	Yes	Yes
13	6	ple		Yes	9	No	Yes	No
13	10	er	/	No	11	No	Yes	Yes
13	13	rents	/	Yes	14	No	Yes	Yes
13	18	roes		Yes	19	Yes	Yes	Yes
13	24	tu	/	No	26	No	Yes	Yes
13	27	thing	/	No		Yes	Yes	Yes
13	35	or	/	No	38	No	Yes	Yes
13	39	ist		Yes	42	Yes	Yes	Yes
13	42	fire	/	No	45	Yes	Yes	Yes
13	47	la	/	No	48	No	Yes	Yes
13	55	aire		No	56	No	Yes	No
13	56	bulks		Yes		No	No	No
13	58	er	/	No	61	Yes	Yes	Yes
13	64	nate		No	67	No	Yes	Yes
13	70	stairs	/	Yes	71	Yes	Yes	Yes
13	74	in	/	No	75	No	Yes	Yes
13	81	door	/	No	82	No	Yes	Yes
13	85	cel	/	No	87	No	Yes	Yes
13	90	tar	/	No	91	No	Yes	Yes
13	93	times	/	Yes	95	No	Yes	Yes
13	101	tive	/	No	102	Yes	Yes	Yes
13	104	eye		Yes	105	No	Yes	No
13	105	zooms	/	Yes	107	Yes	Yes	Yes
13	110	et	/	No	111	Yes	Yes	Yes
13	112	pands		Yes	114	No	Yes	Yes
13	115	it	/	No	116	Yes	Yes	Yes
13	118	stage	/	Yes	120	Yes	Yes	Yes
13	120	kings		Yes	121	Yes	Yes	No
13	124	ing		Yes	128	No	Yes	No
13	128	flies	/	Yes	130	Yes	Yes	Yes
13	136	queue		Yes	138	No	Yes	Yes
13	139	fant	/	No		Yes	Yes	Yes
13	142	year	/	Yes		No	Yes	No
13	145	sand		No	146	No	Yes	Yes
13	147	dles		Yes	149	Yes	Yes	No
13	149	world	/	Yes	151	No	Yes	Yes
13	151	match		No		No	Yes	No
13	153	child	/	No	154	Yes	Yes	Yes
13	158	self	/	No	160	No	Yes	Yes
13	164	ple	/	No	166	No	Yes	Yes
13	167	times	/	No	169	Yes	Yes	Yes
14	6	ple	/	No	9	Yes	Yes	Yes
14	10	er	/	No	11	Yes	Yes	Yes
14	13	rents	/	No	14	No	Yes	Yes
14	18	roes	/	No	20	Yes	Yes	Yes
14	24	tu	/	No	26	No	Yes	Yes
14	29	size		No	32	No	Yes	Yes
14	35	or	/	No	38	No	Yes	Yes
14	39	ist	/	No	40	No	Yes	Yes
14	42	fire		No	45	Yes	Yes	Yes
14	47	la	/	No	48	No	Yes	Yes
14	51	ed		No		Yes	No	No
14	55	aire	/	Yes	56	Yes	Yes	Yes
14	58	er	/	No	61	No	Yes	Yes
14	64	nate		No	67	No	Yes	Yes
14	70	stairs	/	Yes	73	Yes	Yes	Yes
14	74	in		No	75	No	Yes	No
14	81	door	/	No	82	No	Yes	Yes
14	85	cel	/	No	87	No	Yes	Yes

Reader	Syllable k	Syllable	Pause	Length	Pitch reset	Segmenta	NG Boun	Tune Bour
14	87	dwarfs		Yes		No	Yes	No
14	90	tar	/	No	91	No	Yes	Yes
14	93	times	/	Yes	95	No	Yes	Yes
14	101	tive	/	No	103	Yes	Yes	Yes
14	103	weak	/	Yes		No	No	No
14	104	eye		Yes	105	Yes	Yes	No
14	105	zooms	/	Yes	107	Yes	Yes	Yes
14	110	et		No	112	No	Yes	Yes
14	112	pands		Yes	114	No	Yes	Yes
14	115	it		No	116	Yes	Yes	Yes
14	116	far		No		Yes	No	No
14	118	stage		No		Yes	Yes	No
14	124	ing	/	Yes	125	Yes	Yes	Yes
14	128	flies	/	Yes	130	Yes	Yes	Yes
14	136	queue	/	No	138	No	Yes	Yes
14	139	fant		No	140	No	No	No
14	145	sand	/	No	146	No	Yes	Yes
14	149	world	/	Yes	151	Yes	Yes	Yes
14	153	child		Yes		No	Yes	No
14	158	self	/	No	160	No	Yes	Yes
14	164	ple		No	165	Yes	Yes	Yes
14	167	times	/	Yes	169	Yes	Yes	Yes
15	6	ple	/	No	9	No	Yes	No
15	10	er	/	No	11	Yes	Yes	Yes
15	13	rents	/	Yes	15	No	Yes	Yes
15	18	roes	/	Yes	20	Yes	Yes	Yes
15	24	tu	/	No	25	No	Yes	Yes
15	29	size		Yes	32	No	Yes	Yes
15	35	or	/	No	36	No	Yes	Yes
15	39	ist	/	No	40	No	Yes	Yes
15	42	fire	/	Yes	43	Yes	Yes	Yes
15	47	la	/	No	48	Yes	Yes	Yes
15	48	So		Yes		No	Yes	No
15	51	ed		Yes		No	No	No
15	55	aire		Yes	56	No	Yes	Yes
15	56	bulks		Yes		No	No	No
15	58	er	/	Yes	59	Yes	Yes	Yes
15	64	nate	/	Yes	65	Yes	Yes	Yes
15	70	stairs	/	Yes	71	Yes	Yes	Yes
15	74	in		No	75	No	Yes	Yes
15	77	ing		Yes	78	No	Yes	Yes
15	80	west		No		Yes	No	No
15	81	door	/	No	82	No	Yes	Yes
15	82	Screens		Yes	84	Yes	Yes	Yes
15	85	cel	/	No	87	No	Yes	Yes
15	87	dwarfs		Yes		No	Yes	No
15	90	tar	/	No	91	No	Yes	Yes
15	91	Yet		Yes		No	No	No
15	93	times	/	Yes	94	No	Yes	Yes
15	94	for		No		Yes	No	No
15	97	rules		Yes	100	No	Yes	No
15	101	tive	/	No	103	Yes	Yes	Yes
15	105	zooms	/	Yes		Yes	Yes	Yes
15	110	et		Yes	112	No	Yes	No
15	112	pands		Yes		No	Yes	No
15	115	it	/	No	116	Yes	Yes	Yes
15	118	stage		No		Yes	Yes	No
15	120	kings		Yes	122	Yes	Yes	Yes
15	124	ing	/	Yes	125	Yes	Yes	Yes
15	128	flies	/	Yes	129	Yes	Yes	Yes
15	130	down		Yes		No	Yes	No
15	133	end		Yes		No	Yes	No

Reader	Syllable k	Syllable	Pause	Length	Pitch reset	Segmenta	NG Boun	Tune Bour
15	136	queue	/	No	137	No	Yes	Yes
15	137	some		No		Yes	No	No
15	139	fant	/	No	142	Yes	Yes	Yes
15	145	sand	/	No	146	No	Yes	Yes
15	147	dles		Yes		No	Yes	No
15	149	world	/	Yes	153	Yes	Yes	Yes
15	153	child	/	Yes	156	Yes	Yes	Yes
15	156	once		Yes		No	No	No
15	158	self	/	No	160	No	Yes	Yes
15	164	ple	/	No		Yes	Yes	No
15	167	times		Yes	168	No	Yes	No
16	4	off		No	5	No	No	No
16	7	are		Yes	9	Yes	Yes	Yes
16	10	er	/	No	11	Yes	Yes	Yes
16	13	rents	/	No	14	No	Yes	Yes
16	18	roes		Yes	20	Yes	Yes	Yes
16	24	tu	/	No	26	No	Yes	Yes
16	29	size		No	32	No	Yes	Yes
16	35	or		No	38	No	Yes	Yes
16	42	fire	/	No	45	Yes	Yes	Yes
16	44	one's		No		Yes	No	No
16	47	la	/	No	48	No	Yes	Yes
16	51	ed		No		Yes	No	No
16	55	aire		Yes	57	No	Yes	Yes
16	58	er	/	No	61	No	Yes	Yes
16	64	nate		Yes	67	No	Yes	Yes
16	70	stairs	/	Yes	71	Yes	Yes	Yes
16	74	in	/	Yes	75	Yes	Yes	Yes
16	77	ing		No	78	No	No	No
16	81	door	/	Yes	82	No	Yes	Yes
16	82	Screens		No		Yes	No	No
16	85	cel	/	No	86	No	Yes	Yes
16	90	tar	/	No	91	No	Yes	Yes
16	93	times	/	Yes	95	No	Yes	Yes
16	94	for		No		Yes	No	No
16	101	tive	/	No	103	Yes	Yes	Yes
16	105	zooms	/	Yes	107	Yes	Yes	Yes
16	110	et	/	Yes	112	Yes	Yes	Yes
16	112	pands		Yes		No	Yes	No
16	115	it	/	No	116	Yes	Yes	Yes
16	118	stage		Yes	120	Yes	Yes	Yes
16	124	ing		No	125	Yes	Yes	No
16	128	flies	/	No	130	Yes	Yes	Yes
16	136	queue	/	No	138	No	Yes	Yes
16	137	some		No		Yes	No	No
16	139	fant		No	140	Yes	Yes	No
16	142	year	/	No		No	No	No
16	145	sand	/	No	146	No	Yes	Yes
16	149	world	/	No	151	Yes	Yes	Yes
16	153	child		Yes	154	No	Yes	Yes
16	158	self	/	No	160	No	Yes	Yes
16	165	are	/	Yes	166	No	Yes	Yes
16	167	times	/	No	169	Yes	Yes	Yes
17	10	er	/	No	11	Yes	Yes	Yes
17	13	rents	/	Yes	15	No	Yes	Yes
17	18	roes		No	20	Yes	Yes	Yes
17	24	tu	/	No	26	Yes	Yes	Yes
17	27	thing		Yes		No	Yes	No
17	29	size		Yes	30	No	Yes	Yes
17	35	or	/	No	38	No	Yes	Yes
17	39	ist		Yes	42	Yes	Yes	Yes
17	42	fire		Yes	44	No	Yes	Yes

Reader	Syllable k	Syllable	Pause	Length	Pitch reset	Segmenta	NG Boun	Tune Bour
17	44	one's		No		Yes	No	No
17	47	la	/	No	48	No	Yes	Yes
17	51	ed		No		Yes	No	No
17	55	aire		Yes	57	No	Yes	Yes
17	58	er	/	Yes	61	Yes	Yes	Yes
17	62	ive		No		Yes	No	No
17	64	nate		Yes	67	Yes	Yes	Yes
17	67	turn		Yes	68	No	Yes	No
17	70	stairs	/	Yes	73	Yes	Yes	Yes
17	74	in	/	No	75	Yes	Yes	Yes
17	81	door	/	Yes	82	No	Yes	Yes
17	85	cel	/	No	87	Yes	Yes	Yes
17	88	the		No		Yes	No	No
17	90	tar	/	No	91	No	Yes	Yes
17	91	Yet	/	Yes	92	Yes	Yes	Yes
17	93	times	/	No	95	No	Yes	Yes
17	101	tive	/	No	103	Yes	Yes	Yes
17	105	zooms	/	No	107	Yes	Yes	Yes
17	108	tant		No		Yes	No	No
17	112	pands		Yes	114	No	Yes	No
17	115	it	/	No	116	Yes	Yes	Yes
17	118	stage		Yes	120	Yes	Yes	Yes
17	124	ing		Yes	125	No	Yes	No
17	128	flies	/	No	130	Yes	Yes	Yes
17	130	down		Yes		No	No	No
17	136	queue	/	No	137	No	Yes	Yes
17	137	some		No		Yes	No	No
17	139	fant		No	142	Yes	Yes	Yes
17	145	sand	/	Yes	146	No	Yes	Yes
17	149	world		Yes	151	No	Yes	Yes
17	153	child		Yes	154	Yes	Yes	Yes
17	156	once		Yes		No	No	No
17	158	self	/	No	160	No	Yes	Yes
17	164	ple	/	No	166	No	Yes	Yes
18	7	are		Yes	9	No	Yes	No
18	10	er	/	No	11	Yes	Yes	Yes
18	13	rents	/	No	14	No	Yes	Yes
18	18	roes		No	20	Yes	Yes	Yes
18	24	tu	/	No	26	No	Yes	Yes
18	29	size		Yes	32	No	Yes	Yes
18	35	or	/	No	38	No	Yes	Yes
18	39	ist		Yes	40	Yes	Yes	Yes
18	42	fire		No	45	No	Yes	Yes
18	47	la	/	No	48	No	Yes	Yes
18	55	aire		No	56	No	Yes	Yes
18	58	er		No	59	No	No	No
18	64	nate		No	67	No	Yes	Yes
18	70	stairs	/	No	73	No	Yes	Yes
18	74	in	/	No	75	Yes	Yes	Yes
18	77	ing		Yes		No	No	No
18	81	door	/	No	82	No	Yes	Yes
18	85	cel		No	87	No	Yes	No
18	90	tar	/	No	92	No	Yes	Yes
18	93	times		No	95	No	Yes	Yes
18	101	tive	/	No	103	Yes	Yes	Yes
18	104	eye		Yes	105	No	Yes	No
18	105	zooms	/	Yes	107	Yes	Yes	Yes
18	110	et		No	112	No	Yes	Yes
18	112	pands		Yes	114	No	Yes	No
18	115	it		No	116	No	Yes	Yes
18	118	stage	/	Yes	120	Yes	Yes	Yes
18	120	kings		Yes	121	No	Yes	No

Reader	Syllable id	Syllable	Pause	Length	Pitch reset	Segmenta	NG Boun	Tune Bour
18	124	ing		No	128	No	Yes	No
18	128	flies	/	No	130	Yes	Yes	Yes
18	130	down		Yes		No	Yes	No
18	133	end		Yes		No	Yes	No
18	136	queue	/	No	138	No	Yes	Yes
18	139	fant		Yes	142	No	Yes	Yes
18	145	sand		Yes	146	No	Yes	Yes
18	147	dles		Yes		No	Yes	No
18	149	world	/	No	151	Yes	Yes	Yes
18	153	child		Yes	156	No	Yes	Yes
18	158	self	/	No	160	No	Yes	Yes
18	164	ple	/	No	166	No	Yes	Yes
18	167	times		Yes	169	Yes	Yes	Yes
19	7	are		Yes	9	No	Yes	No
19	10	er	/	No	11	Yes	Yes	Yes
19	13	rents		Yes	14	No	Yes	Yes
19	18	roes		No	20	Yes	Yes	Yes
19	24	tu	/	No	26	Yes	Yes	Yes
19	27	thing		No	29	No	No	No
19	29	size		No	30	No	Yes	No
19	35	or	/	No	36	No	Yes	Yes
19	39	ist		No	42	No	Yes	No
19	42	fire		No	45	No	Yes	No
19	47	la	/	No	48	No	Yes	Yes
19	51	ed		No		Yes	No	No
19	55	aire		Yes	57	No	Yes	Yes
19	58	er		No	61	No	Yes	Yes
19	64	nate		No	67	No	Yes	Yes
19	67	turn		No	70	No	Yes	No
19	70	stairs	/	Yes	71	Yes	Yes	Yes
19	74	in		No	75	No	Yes	No
19	77	ing		No	80	No	Yes	No
19	81	door	/	Yes	82	No	Yes	Yes
19	85	cel		No	87	No	Yes	No
19	87	dwarfs		Yes	89	No	Yes	No
19	90	tar	/	No	91	No	Yes	Yes
19	93	times		Yes	95	No	Yes	Yes
19	97	rules		No	100	No	Yes	Yes
19	101	tive	/	No	103	Yes	Yes	Yes
19	104	eye		Yes	105	No	Yes	No
19	105	zooms	/	Yes	107	Yes	Yes	Yes
19	110	et		No	112	No	Yes	No
19	112	pands		No	114	No	Yes	No
19	115	it		No	116	Yes	Yes	Yes
19	118	stage		Yes	120	Yes	Yes	Yes
19	120	kings		Yes	121	Yes	Yes	No
19	124	ing		No	128	No	Yes	No
19	128	flies	/	Yes	130	Yes	Yes	Yes
19	136	queue		Yes	137	No	Yes	Yes
19	139	fant		No	142	No	Yes	No
19	145	sand	/	Yes	146	No	Yes	Yes
19	149	world		Yes	151	No	Yes	Yes
19	153	child		Yes	156	No	Yes	Yes
19	158	self	/	Yes	160	No	Yes	Yes
19	164	ple	/	No	166	Yes	Yes	Yes
19	167	times		No	169	No	Yes	No

MacNeice: *Pitch* table (syllables added from *Text* table for ease of following)

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
10	1	1	The	H	#		1	1
10	2	2	fur	T	U	/	1	1
10	3	3	ther	H	D		1	1
10	4	4	off	H	U	'	1	1
10	5	5	peo	L	D	/	1	1
10	6	6	ple	L	R		1	1
10	7	7	are	L	R		2	2
10	8	8	the	L	R		2	2
10	9	9	small	H	U	/	2	2
10	10	10	er	L	D		2	2
10	11	11	Grand	H	U	/	3	3
10	12	12	pa	H	R		3	3
10	13	13	rents	H	R		3	3
10	14	14	Ho	M	D		4	4
10	15	15	me	H	U	/	4	4
10	16	16	ric	H	R		4	4
10	17	17	he	L	D	/	4	4
10	18	18	roes	L	R		4	4
10	19	19	and	L	R		5	5
10	20	20	suff	M	U	/	5	5
10	21	21	e	M	R		5	5
10	22	22	ring	M	R		5	5
10	23	23	Ban	L	D	/	5	5
10	24	24	tu	L	D		5	5
10	25	25	Are	L	U		6	6
10	26	26	no	M	U	/	6	6
10	27	27	thing	L	D		6	6
10	28	28	in	L	R		6	6
10	29	29	size	L	U	/	6	6
10	30	30	to	L	R		6	6
10	31	31	the	L	R		6	6
10	32	32	tax	M	U	/	6	6
10	33	33	co	B	D		6	6
10	34	34	llect	B	R	'	6	6
10	35	35	or	B	R		6	6
10	36	36	Or	B	R		7	7
10	37	37	the	B	R		7	7
10	38	38	dent	L	U	/	7	7
10	39	39	ist	B	D		7	7
10	40	40	breath	L	U	'	8	8
10	41	41	ing	L	R		8	8
10	42	42	fire	L	U	/	8	8
10	42	43	fire	L	D	/	8	8
10	43	44	on	L	R		9	9
10	44	45	one's	L	R		9	9
10	45	46	uv	L	U	/	9	9
10	46	47	u	L	D		9	9
10	47	48	la	L	R		9	9
10	48	49	So	H	U	/	10	10
10	49	50	the	H	R		11	10
10	50	51	stunt	H	R	/	11	10
10	51	52	ed	H	R		11	10
10	52	53	com	M	D		11	10
10	53	54	miss	M	R	'	11	10
10	54	55	on	M	R		11	10
10	55	56	aire	H	U	/	11	10
10	55	57	aire	L	D	/	11	10
10	56	58	bulks	M	U	'	12	11
10	57	59	larg	H	U	/	12	11
10	58	60	er	L	D		12	11
10	59	61	Than	L	R		13	12

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
10	60	62	the	L	R		13	12
10	61	63	mass	M	U	/	13	12
10	62	64	ive	L	D		13	12
10	63	65	mag	M	U	/	13	12
10	64	66	nate	L	D		13	12
10	65	67	at	L	R		14	13
10	66	68	the	L	R		14	13
10	67	69	turn	M	U	/	14	13
10	68	70	of	L	D		14	13
10	69	71	the	L	R		14	13
10	70	72	stairs	L	U	/	14	13
10	70	73	stairs	L	D	/	14	13
10	71	74	While	L	U		15	14
10	72	75	the	L	R		15	14
10	73	76	coff	M	U	/	15	14
10	74	77	in	L	D		15	14
10	75	78	ent	M	U	/	15	14
10	76	79	er	M	R		15	14
10	77	80	ing	M	R		15	14
10	78	81	by	L	D		15	14
10	79	82	the	L	R		15	14
10	80	83	west	L	U	'	15	14
10	81	84	door	L	D	/	15	14
10	81	85	door	B	D	/	15	14
10	82	86	Screens	L	U	/	16	15
10	82	87	Screens	L	D	/	16	15
10	83	88	the	L	R		17	16
10	84	89	chan	L	U	/	17	16
10	85	90	cel	L	D		17	16
10	86	91	and	L	R		18	17
10	87	92	dwarfs	L	U	/	18	17
10	87	93	dwarfs	L	D	/	18	17
10	88	94	the	L	R		19	18
10	89	95	al	L	U	/	19	18
10	90	96	tar	L	D		19	18
10	91	97	Yet	H	U		20	19
10	92	98	some	T	U	/	20	19
10	93	99	times	L	D		20	19
10	94	100	for	L	R		21	20
10	95	101	all	H	U	/	21	20
10	96	102	these	L	D		21	20
10	97	103	rules	L	R	/	21	20
10	98	104	of	L	R		21	20
10	99	105	per	L	R		21	20
10	100	106	spec	L	R	/	21	20
10	101	107	tive	L	D		21	20
10	102	108	The	L	U		22	21
10	103	109	weak	M	U	/	22	21
10	104	110	eye	L	D	'	22	21
10	105	111	zooms	L	D	/	22	21
10	105	112	zooms	B	D	/	22	21
10	106	113	the	L	U		23	22
10	107	114	dis	M	U	/	23	22
10	108	115	tant	M	R		23	22
10	109	116	midg	L	D	/	23	22
10	110	117	et	L	D		23	22
10	111	118	Ex	L	U		24	23
10	112	119	pands	M	U	/	24	23
10	113	120	to	M	R		24	23
10	114	121	meet	L	D	/	24	23
10	115	122	it	B	D		24	23

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
10	116	123	far	M	U	/	25	24
10	117	124	up	M	R		25	24
10	118	125	stage	L	D	/	25	24
10	118	126	stage	L	D	/	25	24
10	119	127	The	L	U		26	25
10	120	128	kings	M	U	/	26	25
10	120	129	kings	L	D	/	26	25
10	121	130	go	L	D		27	25
10	122	131	tow	M	U	/	27	25
10	123	132	er	B	D		27	25
10	124	133	ing	B	R		27	25
10	125	134	in	B	R		28	25
10	126	135	to	B	R		28	25
10	127	136	the	B	R		28	25
10	128	137	flies	L	U	/	28	25
10	128	138	flies	B	D	/	28	25
10	129	139	And	L	U		29	26
10	130	140	down	M	U	/	29	26
10	131	141	at	M	R		29	26
10	132	142	the	M	R		29	26
10	133	143	end	L	D	/	29	26
10	134	144	of	L	R		29	26
10	135	145	a	L	R		29	26
10	136	146	queue	L	D	/	29	26
10	136	147	queue	B	D	/	29	26
10	136	148	queue	L	U	/	29	26
10	137	149	some	L	U		30	27
10	138	150	in	L	D	/	30	27
10	139	151	fant	L	D		30	27
10	140	152	Of	L	R		30	27
10	141	153	the	L	R		30	27
10	142	154	year	L	R	'	30	27
10	143	155	Two	L	U		30	27
10	144	156	Thou	L	R	/	30	27
10	145	157	sand	L	D		30	27
10	146	158	strad	L	U	/	31	28
10	147	159	dles	L	R		31	28
10	148	160	the	L	R		31	28
10	149	161	world	L	D	/	31	28
10	149	162	world	B	D	/	31	28
10	150	163	To	L	U		32	29
10	151	164	match	L	U	/	32	29
10	152	165	the	L	D		32	29
10	153	166	child	L	R	/	32	29
10	153	167	child	L	D	/	32	29
10	154	168	that	L	R		33	30
10	155	169	was	L	R		33	30
10	156	170	once	L	U	/	33	30
10	157	171	your	L	D		33	30
10	158	172	self	L	U	/	33	30
10	158	173	self	B	D	/	33	30
10	159	174	The	L	U		34	31
10	160	175	fur	L	U	/	34	31
10	161	176	ther	L	R		34	31
10	162	177	off	L	D		34	31
10	163	178	peo	L	D	'	34	31
10	164	179	ple	L	D		34	31
10	165	180	are	L	R		35	32
10	166	181	some	L	U	/	35	32
10	167	182	times	L	D		35	32
10	168	183	the	L	R		36	32

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
10	169	184	larg	L	U	/	36	32
10	170	185	er	B	D		36	32
11	1	186	The	L	#		1	1
11	2	187	fur	H	U	/	1	1
11	3	188	ther	H	R		1	1
11	4	189	off	H	D		1	1
11	5	190	peo	M	D	/	1	1
11	6	191	ple	M	R		1	1
11	7	192	are	M	R		2	1
11	8	193	the	M	R		2	1
11	9	194	small	L	D	/	2	1
11	10	195	er	L	R		2	1
11	11	196	Grand	M	U	/	3	2
11	12	197	pa	M	R		3	2
11	13	198	rents	M	R		3	2
11	14	199	Ho	L	D		4	3
11	15	200	me	L	U	/	4	3
11	16	201	ric	L	R		4	3
11	17	202	he	L	D	/	4	3
11	18	203	roes	L	R		4	3
11	19	204	and	L	R		5	4
11	20	205	suff	M	U	/	5	4
11	21	206	e	M	R		5	4
11	22	207	ring	M	R		5	4
11	23	208	Ban	L	D	/	5	4
11	24	209	tu	L	R		5	4
11	25	210	Are	L	R		6	5
11	26	211	no	H	U	/	6	5
11	27	212	thing	L	D		6	5
11	28	213	lin	L	R		7	5
11	29	214	size	L	U	'	7	5
11	30	215	to	L	D		7	5
11	31	216	the	L	R		7	5
11	32	217	tax	M	U	/	7	5
11	33	218	co	M	R		7	5
11	34	219	llect	M	R	'	7	5
11	35	220	or	M	R		7	5
11	36	221	Or	L	D		8	6
11	37	222	the	L	R		8	6
11	38	223	dent	M	U	/	8	6
11	39	224	ist	M	R		8	6
11	40	225	breath	L	D		9	6
11	41	226	ing	L	R		9	6
11	42	227	fire	M	U	/	9	6
11	43	228	on	L	D		10	6
11	44	229	one's	L	R		10	6
11	45	230	uv	B	D	/	10	6
11	46	231	u	B	R		10	6
11	47	232	la	B	R		10	6
11	48	233	So	L	U		11	7
11	49	234	the	L	R		11	7
11	50	235	stunt	H	U	/	11	7
11	51	236	ed	H	R		11	7
11	52	237	com	L	D		11	7
11	53	238	miss	L	R		11	7
11	54	239	on	L	R		11	7
11	55	240	aire	M	U	/	11	7
11	55	241	aire	L	D	/	11	7
11	56	242	bulks	L	R	'	12	7
11	57	243	larg	M	U	/	12	7
11	58	244	er	L	D		12	7

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
11	59	245	Than	L	R		13	8
11	60	246	the	L	R		13	8
11	61	247	mass	M	U	/	13	8
11	62	248	ive	L	D		13	8
11	63	249	mag	M	U	/	13	8
11	64	250	nate	L	D		13	8
11	65	251	at	L	R		14	8
11	66	252	the	L	R		14	8
11	67	253	turn	L	U	'	14	8
11	68	254	of	L	D		14	8
11	69	255	the	L	R		14	8
11	70	256	stairs	L	U	/	14	8
11	70	257	stairs	H	U	/	14	8
11	71	258	While	L	D		15	9
11	72	259	the	L	R		15	9
11	73	260	coff	H	U	/	15	9
11	74	261	in	L	D		15	9
11	75	262	ent	M	U	/	16	10
11	76	263	er	M	R		16	10
11	77	264	ing	M	R		16	10
11	78	265	by	L	D		16	10
11	79	266	the	L	D		16	10
11	80	267	west	M	U	/	16	10
11	81	268	door	L	D		16	10
11	82	269	Screens	L	U	/	17	11
11	83	270	the	L	R		17	11
11	84	271	chan	M	U	/	17	11
11	85	272	cel	L	D		17	11
11	86	273	and	L	R		18	12
11	87	274	dwarfs	L	U	/	18	12
11	88	275	the	L	R		18	12
11	89	276	al	B	D	/	18	12
11	90	277	tar	B	R		18	12
11	91	278	Yet	L	U		19	13
11	92	279	some	T	U	/	19	13
11	93	280	times	L	D		19	13
11	94	281	for	L	U		20	14
11	95	282	all	H	U	/	20	14
11	96	283	these	M	D		20	14
11	97	284	rules	M	R	'	20	14
11	98	285	of	L	D		20	14
11	99	286	per	L	R		20	14
11	100	287	spec	M	U	/	20	14
11	101	288	tive	M	R		20	14
11	102	289	The	L	D		21	15
11	103	290	weak	H	U	/	21	15
11	104	291	eye	M	D		21	15
11	105	292	zooms	L	D	/	21	15
11	105	293	zooms	L	D	/	21	15
11	106	294	the	L	R		22	16
11	107	295	dis	L	R	'	22	16
11	108	296	tant	L	R		22	16
11	109	297	midg	M	U	/	22	16
11	110	298	let	M	R		22	16
11	111	299	Ex	L	D		23	17
11	112	300	pands	M	U	/	23	17
11	113	301	to	M	R		23	17
11	114	302	meet	L	D	/	23	17
11	115	303	lit	L	R		23	17
11	116	304	far	M	U	/	24	18
11	117	305	up	L	D		24	18

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
11	118	306	stage	L	D	/	24	18
11	119	307	The	L	R		25	19
11	120	308	kings	L	U	/	25	19
11	121	309	go	L	D		26	19
11	122	310	tow	L	U	/	26	19
11	123	311	er	L	R		26	19
11	124	312	ing	L	D		26	19
11	125	313	in	L	U		27	19
11	126	314	to	L	R		27	19
11	127	315	the	L	R		27	19
11	128	316	flies	B	D	/	27	19
11	129	317	And	L	U		28	20
11	130	318	down	H	U	/	28	20
11	131	319	at	H	R		28	20
11	132	320	the	H	R		28	20
11	133	321	end	L	D	'	28	20
11	134	322	of	L	R		28	20
11	135	323	a	L	R		28	20
11	136	324	queue	M	U	/	28	20
11	137	325	some	L	D		29	21
11	138	326	in	M	U	/	29	21
11	139	327	fant	M	R		29	21
11	140	328	Of	L	D		30	22
11	141	329	the	L	R		30	22
11	142	330	year	M	U	/	30	22
11	143	331	Two	L	D		30	22
11	144	332	Thou	L	D	/	30	22
11	145	333	sand	L	D		30	22
11	146	334	strad	M	U	/	31	23
11	147	335	dles	M	R		31	23
11	148	336	the	L	D		31	23
11	149	337	world	L	D	/	31	23
11	149	338	world	L	D	/	31	23
11	150	339	To	L	U		32	24
11	151	340	match	M	U	/	32	24
11	152	341	the	L	D		32	24
11	153	342	child	L	R	/	32	24
11	154	343	that	L	R		32	24
11	155	344	was	L	R		32	24
11	156	345	once	L	R	/	32	24
11	157	346	your	L	R		32	24
11	158	347	self	B	D	/	32	24
11	159	348	The	L	U		33	25
11	160	349	fur	H	U	/	33	25
11	161	350	ther	H	R		33	25
11	162	351	off	H	R		33	25
11	163	352	peo	L	D	/	33	25
11	164	353	ple	L	R		33	25
11	165	354	are	L	R		34	25
11	166	355	some	L	D	/	34	25
11	167	356	times	L	R		34	25
11	168	357	the	L	R		35	25
11	169	358	larg	B	D	/	35	25
11	170	359	er	B	R		35	25
12	1	360	The	H	#		1	1
12	2	361	fur	T	U	/	1	1
12	3	362	ther	T	R		1	1
12	4	363	off	T	R	/	1	1
12	5	364	peo	L	D	'	2	1
12	6	365	ple	L	R		2	1
12	7	366	are	L	R	/	2	1

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
12	7	367	are	M	U	/	2	1
12	8	368	the	M	R		3	2
12	9	369	small	M	R	/	3	2
12	10	370	er	L	D		3	2
12	11	371	Grand	M	U	/	4	3
12	12	372	pa	M	R		4	3
12	13	373	rents	M	R		4	3
12	14	374	Ho	L	D		5	4
12	15	375	me	M	U	/	5	4
12	16	376	ric	M	R		5	4
12	17	377	he	L	D	/	5	4
12	18	378	roes	L	R		5	4
12	19	379	and	L	R		6	5
12	20	380	suff	M	U	/	6	5
12	21	381	e	M	R		6	5
12	22	382	ring	M	R		6	5
12	23	383	Ban	L	D	/	6	5
12	24	384	tu	L	R		6	5
12	25	385	Are	L	R		7	6
12	26	386	no	H	U	/	7	6
12	27	387	thing	L	D		7	6
12	28	388	in	L	R		8	6
12	29	389	size	L	R	/	8	6
12	29	390	size	M	U	/	8	6
12	30	391	to	L	D		9	7
12	31	392	the	L	R		9	7
12	32	393	tax	L	U	/	9	7
12	33	394	co	L	R		9	7
12	34	395	llect	L	R		9	7
12	35	396	or	L	R		9	7
12	36	397	Or	L	D		10	8
12	37	398	the	L	R		10	8
12	38	399	dent	L	U	/	10	8
12	39	400	ist	L	R		10	8
12	40	401	breath	L	R		11	9
12	41	402	ing	L	D		11	9
12	42	403	fire	L	U	/	11	9
12	43	404	on	L	D		12	10
12	44	405	one's	L	R		12	10
12	45	406	uv	L	R	/	12	10
12	46	407	u	L	R		12	10
12	47	408	la	L	U		12	10
12	48	409	So	H	U		13	11
12	49	410	the	H	R		13	11
12	50	411	stunt	H	U	/	13	11
12	51	412	ed	H	R		13	11
12	52	413	com	H	R		13	11
12	53	414	miss	H	D		13	11
12	54	415	on	H	R		13	11
12	55	416	aire	H	R		13	11
12	56	417	bulks	H	R	/	14	11
12	57	418	larg	H	R	/	14	11
12	58	419	er	L	D		14	11
12	59	420	Than	L	R		15	12
12	60	421	the	L	R		15	12
12	61	422	mass	H	U	/	15	12
12	62	423	ive	H	R		15	12
12	63	424	mag	H	R	/	15	12
12	64	425	nate	L	D		15	12
12	65	426	at	L	R		16	12
12	66	427	the	L	R		16	12

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
12	67	428	turn	L	R	/	16	12
12	68	429	of	L	R		16	12
12	69	430	the	L	R		16	12
12	70	431	stairs	L	R	/	16	12
12	71	432	While	L	R		17	13
12	72	433	the	L	R		17	13
12	73	434	coff	M	U	/	17	13
12	74	435	in	L	D		17	13
12	75	436	ent	L	U	/	18	14
12	76	437	er	L	R		18	14
12	77	438	ing	L	R		18	14
12	78	439	by	L	R		18	14
12	79	440	the	L	R		18	14
12	80	441	west	L	R	/	18	14
12	81	442	door	L	D	/	18	14
12	82	443	Screens	L	U	/	19	15
12	83	444	the	L	R		19	15
12	84	445	chan	L	R	/	19	15
12	85	446	cel	L	D		19	15
12	86	447	and	L	R		20	16
12	87	448	dwarfs	L	U	/	20	16
12	88	449	the	L	R		20	16
12	89	450	al	B	D	/	20	16
12	90	451	tar	B	R		20	16
12	91	452	Yet	L	U	/	21	17
12	92	453	some	H	U	/	22	17
12	93	454	times	L	D		22	17
12	93	455	times	L	U		22	17
12	94	456	for	L	R		23	18
12	95	457	all	L	U		23	18
12	96	458	these	L	D		23	18
12	97	459	rules	L	R	/	23	18
12	98	460	of	L	R		23	18
12	99	461	per	L	R		23	18
12	100	462	spec	L	D	/	23	18
12	101	463	tive	L	U		23	18
12	102	464	The	L	R		24	19
12	103	465	weak	M	U	/	24	19
12	104	466	eye	L	D		24	19
12	105	467	zooms	L	D	/	24	19
12	106	468	the	L	R		25	20
12	107	469	dis	M	U	/	25	20
12	108	470	tant	M	R		25	20
12	109	471	midg	L	D	/	25	20
12	110	472	et	L	R		25	20
12	111	473	Ex	L	R		26	20
12	112	474	pands	L	R	/	26	20
12	113	475	to	L	R		26	20
12	114	476	meet	L	D	/	26	20
12	115	477	it	L	U		26	20
12	116	478	far	H	U	/	27	21
12	117	479	up	H	R		27	21
12	118	480	stage	L	D	/	27	21
12	119	481	The	L	R		28	21
12	120	482	kings	M	U	/	28	21
12	121	483	go	L	D		28	21
12	122	484	tow	M	U	/	29	22
12	123	485	er	L	D		29	22
12	124	486	ing	L	R		29	22
12	125	487	in	L	R		30	22
12	126	488	to	L	R		30	22

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
12	127	489	the	L	R		30	22
12	128	490	flies	L	U	/	30	22
12	128	491	flies	L	D	/	30	22
12	129	492	And	L	U		31	23
12	130	493	down	M	U	/	31	23
12	131	494	at	L	D		32	23
12	132	495	the	L	R		32	23
12	133	496	end	M	U	/	32	23
12	134	497	of	L	D		33	23
12	135	498	a	L	R		33	23
12	136	499	queue	M	U	/	33	23
12	137	500	some	M	R		34	24
12	138	501	in	M	R	/	34	24
12	139	502	fant	M	R		34	24
12	140	503	Of	L	D		35	24
12	141	504	the	L	R		35	24
12	142	505	year	M	U	/	35	24
12	143	506	Two	M	R		35	24
12	144	507	Thou	L	D	/	35	24
12	145	508	sand	L	R		35	24
12	146	509	strad	H	U	/	36	25
12	147	510	dles	H	R		36	25
12	148	511	the	L	D		36	25
12	149	512	world	H	U	/	36	25
12	149	513	world	L	D	/	36	25
12	150	514	To	L	D		37	26
12	151	515	match	H	U	/	37	26
12	152	516	the	H	R		37	26
12	153	517	child	H	D	/	37	26
12	153	518	child	L	D	/	37	26
12	154	519	that	L	R		38	27
12	155	520	was	L	R		38	27
12	156	521	once	M	U	/	38	27
12	157	522	your	M	R		38	27
12	158	523	self	L	D	/	38	27
12	159	524	The	L	R		39	28
12	160	525	fur	H	U	/	39	28
12	161	526	ther	M	D		39	28
12	162	527	off	H	U	'	39	28
12	163	528	peo	L	D	/	39	28
12	164	529	ple	L	R		39	28
12	165	530	are	L	R		40	29
12	166	531	some	H	U	/	40	29
12	167	532	times	L	D		40	29
12	168	533	the	L	R		41	30
12	169	534	larg	L	U	/	41	30
12	170	535	er	B	D		41	30
13	1	536	The	M	#		1	1
13	2	537	fur	H	U	/	1	1
13	3	538	ther	H	R		1	1
13	4	539	off	H	D	'	1	1
13	5	540	peo	L	D	/	1	1
13	6	541	ple	L	R		1	1
13	7	542	are	L	R		2	1
13	8	543	the	L	R		2	1
13	9	544	small	L	U	/	2	1
13	10	545	er	L	D		2	1
13	11	546	Grand	L	U	/	3	2
13	12	547	pa	L	R		3	2
13	13	548	rents	H	U		3	2
13	14	549	Ho	L	D		4	3

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
13	15	550	me	H	U	/	4	3
13	16	551	ric	H	R		4	3
13	17	552	he	H	R	/	4	3
13	18	553	roes	L	D		4	3
13	19	554	and	L	D		5	4
13	20	555	suff	L	U	/	5	4
13	21	556	e	L	R		5	4
13	22	557	ring	L	R		5	4
13	23	558	Ban	L	R	/	5	4
13	24	559	tu	L	D		5	4
13	25	560	Are	L	U		6	5
13	26	561	no	H	U	/	6	5
13	27	562	thing	L	D		6	5
13	28	563	in	L	R		7	6
13	29	564	size	L	R	/	7	6
13	30	565	to	L	R		7	6
13	31	566	the	L	R		7	6
13	32	567	tax	L	U	/	7	6
13	33	568	co	L	D		7	6
13	34	569	llect	L	R	'	7	6
13	35	570	or	B	D		7	6
13	36	571	Or	L	U		8	7
13	37	572	the	L	R		8	7
13	38	573	dent	M	U	/	8	7
13	39	574	ist	L	D		8	7
13	40	575	breath	L	U	'	9	8
13	41	576	ing	L	R		9	8
13	42	577	fire	L	U	/	9	8
13	42	578	fire	L	D	/	9	8
13	43	579	on	L	R		10	9
13	44	580	one's	L	R		10	9
13	45	581	uv	L	R	/	10	9
13	46	582	u	L	D		10	9
13	47	583	la	L	R		10	9
13	48	584	So	L	U		11	10
13	49	585	the	L	R		11	10
13	50	586	stunt	H	U	/	11	10
13	51	587	ed	H	R		11	10
13	52	588	com	H	R		11	10
13	53	589	miss	H	R		11	10
13	54	590	on	H	R		11	10
13	55	591	aire	M	D	/	11	10
13	55	592	aire	L	D	/	11	10
13	56	593	bulks	L	R	'	12	10
13	57	594	larg	L	U	/	12	10
13	58	595	er	L	D		12	10
13	59	596	Than	L	R		13	11
13	60	597	the	L	R		13	11
13	61	598	mass	L	U	/	13	11
13	62	599	ive	L	R		13	11
13	63	600	mag	L	R	/	13	11
13	64	601	nate	B	D		13	11
13	65	602	at	B	R		14	12
13	66	603	the	B	R		14	12
13	67	604	turn	L	U	/	14	12
13	68	605	of	L	R		14	12
13	69	606	the	L	R		14	12
13	70	607	stairs	L	D	/	14	12
13	70	608	stairs	B	D	/	14	12
13	71	609	While	L	U		15	13
13	72	610	the	L	R		15	13

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
13	73	611	coff	H	U	/	15	13
13	74	612	in	L	D		15	13
13	75	613	ent	L	U	/	16	14
13	76	614	er	L	R		16	14
13	77	615	ing	L	R		16	14
13	78	616	by	L	R		16	14
13	79	617	the	L	R		16	14
13	80	618	west	L	R	'	16	14
13	81	619	door	L	R	/	16	14
13	81	620	door	B	D	/	16	14
13	82	621	Screens	M	U	/	17	15
13	83	622	the	M	R		17	15
13	84	623	chan	L	D	/	17	15
13	85	624	cel	L	D		17	15
13	86	625	and	L	R		18	16
13	87	626	dwarfs	L	U	/	18	16
13	88	627	the	L	R		18	16
13	89	628	al	L	D	/	18	16
13	90	629	tar	B	D		18	16
13	91	630	Yet	M	U		19	17
13	92	631	some	T	U	/	19	17
13	93	632	times	L	D		19	17
13	94	633	for	L	U		20	18
13	95	634	ail	M	U	/	20	18
13	96	635	these	L	D		20	18
13	97	636	rules	L	R	/	20	18
13	98	637	of	L	R		20	18
13	99	638	per	L	R		20	18
13	100	639	spec	L	R	/	20	18
13	101	640	tive	M	U		20	18
13	102	641	The	L	D		21	19
13	103	642	weak	H	U	/	21	19
13	104	643	eye	M	D	/	21	19
13	104	644	eye	L	D	/	21	19
13	105	645	zooms	M	U	/	22	19
13	105	646	zooms	B	D	/	22	19
13	106	647	the	L	U		23	20
13	107	648	dis	M	U	/	23	20
13	108	649	tant	M	R		23	20
13	109	650	midg	L	D	/	23	20
13	110	651	et	L	R		23	20
13	111	652	Ex	L	D		24	21
13	112	653	pands	L	U	/	24	21
13	112	654	pands	L	D	/	24	21
13	113	655	to	L	R		25	22
13	114	656	meet	L	U	/	25	22
13	115	657	it	B	D		25	22
13	116	658	far	L	U	/	26	23
13	117	659	up	L	R		26	23
13	118	660	stage	L	D	/	26	23
13	119	661	The	L	R		27	24
13	120	662	kings	L	U	/	27	24
13	121	663	go	L	D		28	24
13	122	664	tow	L	U	/	28	24
13	123	665	er	L	R		28	24
13	124	666	ing	L	D		28	24
13	125	667	in	L	R		29	24
13	126	668	to	L	R		29	24
13	127	669	the	L	R		29	24
13	128	670	flies	L	U	/	29	24
13	128	671	flies	B	D	/	29	24

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
13	129	672	And	L	U		30	25
13	130	673	down	M	U	/	30	25
13	131	674	at	M	R		30	25
13	132	675	the	M	R		30	25
13	133	676	end	L	D	/	30	25
13	134	677	of	L	R		30	25
13	135	678	a	L	R		30	25
13	136	679	queue	M	U	/	30	25
13	136	680	queue	L	D	/	30	25
13	137	681	some	L	R		31	26
13	138	682	in	L	U	/	31	26
13	139	683	fant	L	D		31	26
13	140	684	Of	L	R		32	27
13	141	685	the	L	R		32	27
13	142	686	year	L	R	/	32	27
13	143	687	Two	L	R		33	27
13	144	688	Thou	L	U	/	33	27
13	145	689	sand	L	D		33	27
13	146	690	strad	L	U	/	34	28
13	147	691	dles	L	D		34	28
13	148	692	the	L	R		35	28
13	149	693	world	L	U	/	35	28
13	149	694	world	B	D	/	35	28
13	150	695	To	L	U		36	29
13	151	696	match	M	U	/	36	29
13	152	697	the	L	D		37	29
13	153	698	child	L	R	/	37	29
13	153	699	child	B	D	/	37	29
13	154	700	that	L	U		38	30
13	155	701	was	L	R		38	30
13	156	702	once	L	R	/	38	30
13	157	703	your	L	D		38	30
13	158	704	self	L	U	/	38	30
13	158	705	self	B	D	/	38	30
13	159	706	The	L	U		39	31
13	160	707	fur	M	U	/	39	31
13	161	708	ther	M	R		39	31
13	162	709	off	M	R		39	31
13	163	710	peo	L	D	/	39	31
13	164	711	ple	L	R		39	31
13	165	712	are	L	R		40	32
13	166	713	some	L	U	/	40	32
13	167	714	times	L	D		40	32
13	168	715	the	L	R		41	33
13	169	716	larg	L	U	/	41	33
13	170	717	er	B	D		41	33
14	1	718	The	L	#		1	1
14	2	719	fur	H	U	/	1	1
14	3	720	ther	L	D		1	1
14	4	721	off	H	U	/	1	1
14	5	722	peo	L	D	/	1	1
14	6	723	ple	L	R		1	1
14	7	724	are	L	U	'	2	2
14	8	725	the	L	R		2	2
14	9	726	small	M	U	/	2	2
14	10	727	er	B	D		2	2
14	11	728	Grand	L	U	/	3	3
14	12	729	pa	L	R	'	3	3
14	13	730	rents	M	U		3	3
14	14	731	Ho	L	D		4	4
14	15	732	me	L	U	/	4	4

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
14	16	733	ric	L	R		4	4
14	17	734	he	L	D	/	4	4
14	18	735	roes	L	R		4	4
14	19	736	and	L	R		5	5
14	20	737	suff	M	U	/	5	5
14	21	738	e	M	R		5	5
14	22	739	ring	M	R		5	5
14	23	740	Ban	L	D		5	5
14	24	741	tu	M	U	/	5	5
14	24	742	tu	L	D	/	5	5
14	25	743	Are	L	R		6	6
14	26	744	no	H	U	/	6	6
14	27	745	thing	L	D		6	6
14	28	746	in	L	R		6	6
14	29	747	size	M	U	/	6	6
14	30	748	to	L	D		7	7
14	31	749	the	L	R		7	7
14	32	750	tax	H	U	/	7	7
14	33	751	co	L	D		7	7
14	34	752	llect	L	R	'	7	7
14	35	753	or	L	R		7	7
14	36	754	Or	L	U		8	8
14	37	755	the	L	R		8	8
14	38	756	dent	M	U	/	8	8
14	39	757	ist	L	D		8	8
14	40	758	breath	L	U	/	9	9
14	41	759	ing	L	R		9	9
14	42	760	fire	M	U	/	9	9
14	42	761	fire	L	D	/	9	9
14	43	762	on	L	U		10	10
14	44	763	one's	L	R		10	10
14	45	764	uv	L	U	/	10	10
14	46	765	u	B	D		10	10
14	47	766	la	B	R		10	10
14	48	767	So	M	U		11	11
14	49	768	the	M	R		11	11
14	50	769	stunt	H	U	/	11	11
14	51	770	ed	H	R		11	11
14	52	771	com	M	D		11	11
14	53	772	miss	H	U	'	11	11
14	54	773	on	M	D		11	11
14	55	774	aire	H	U	/	11	11
14	55	775	aire	L	D	/	11	11
14	56	776	buiks	M	U	'	12	12
14	57	777	larg	H	U	/	12	12
14	58	778	er	L	D		12	12
14	59	779	Than	L	U		13	13
14	60	780	the	L	R		13	13
14	61	781	mass	M	U	/	13	13
14	62	782	ive	L	D		13	13
14	63	783	mag	M	U	/	13	13
14	64	784	nate	L	D		13	13
14	65	785	at	L	U		14	14
14	66	786	the	L	R		14	14
14	67	787	turn	L	U	/	14	14
14	68	788	of	L	D		14	14
14	69	789	the	L	R		14	14
14	70	790	stairs	L	U	/	14	14
14	70	791	stairs	L	D	/	14	14
14	71	792	While	L	U		15	15
14	72	793	the	L	R		15	15

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
14	73	794	coff	H	U	/	15	15
14	74	795	in	L	D		15	15
14	75	796	ent	M	U	/	16	15
14	76	797	er	M	R		16	15
14	77	798	ing	L	D		16	15
14	78	799	by	L	R		16	15
14	79	800	the	L	R		16	15
14	80	801	west	L	R	/	16	15
14	81	802	door	L	R	/	16	15
14	81	803	door	L	D	/	16	15
14	82	804	Screens	M	U	/	17	16
14	83	805	the	L	D		17	16
14	84	806	chan	M	U	/	17	16
14	85	807	cel	L	D		17	16
14	86	808	and	L	U		18	17
14	87	809	dwarfs	L	U	/	18	17
14	88	810	the	L	D		19	17
14	89	811	al	L	U	/	19	17
14	90	812	tar	B	D		19	17
14	91	813	Yet	M	U		20	18
14	92	814	some	T	U	/	20	18
14	93	815	times	L	D		20	18
14	94	816	for	L	U		21	19
14	95	817	all	T	U	/	21	19
14	96	818	these	M	D		21	19
14	97	819	rules	L	D	/	21	19
14	98	820	of	L	D		21	19
14	99	821	per	L	D		21	19
14	100	822	spec	L	U	/	21	19
14	101	823	tive	L	D		21	19
14	102	824	The	M	U		22	20
14	103	825	weak	T	U	/	22	20
14	104	826	eye	L	D	/	22	20
14	105	827	zooms	M	U	/	23	20
14	105	828	zooms	B	D	/	23	20
14	106	829	the	L	U		24	21
14	107	830	dis	H	U	/	24	21
14	108	831	tant	L	D		24	21
14	109	832	midg	H	U	/	24	21
14	110	833	et	L	D		24	21
14	111	834	Ex	L	R		25	22
14	112	835	pands	M	U	/	25	22
14	112	836	pands	L	D	/	25	22
14	113	837	to	L	R		26	23
14	114	838	meet	L	U	/	26	23
14	115	839	it	B	D		26	23
14	116	840	far	L	U	/	27	24
14	117	841	up	L	D		27	24
14	118	842	stage	L	U	/	27	24
14	119	843	The	L	D		28	24
14	120	844	kings	L	U	/	28	24
14	121	845	go	L	D		28	24
14	122	846	tow	H	U	/	28	24
14	123	847	er	L	D		28	24
14	124	848	ing	L	R		28	24
14	125	849	in	L	U	/	29	25
14	126	850	to	L	R		29	25
14	127	851	the	L	D		29	25
14	128	852	flies	L	R	/	29	25
14	128	853	flies	B	D	/	29	25
14	129	854	And	L	U		30	26

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
14	130	855	down	H	U	/	30	26
14	131	856	at	H	R		30	26
14	132	857	the	H	R		30	26
14	133	858	end	L	D	/	30	26
14	134	859	of	L	R		30	26
14	135	860	a	L	R		30	26
14	136	861	queue	L	D	/	30	26
14	136	862	queue	L	D	/	30	26
14	137	863	some	L	U		31	27
14	138	864	in	M	U	/	31	27
14	139	865	fant	M	R		31	27
14	140	866	Of	L	D		31	27
14	141	867	the	L	R		31	27
14	142	868	year	L	U	/	31	27
14	143	869	Two	M	U	/	31	27
14	144	870	Thou	L	D	/	31	27
14	145	871	sand	L	D		31	27
14	146	872	strad	L	U	/	32	28
14	147	873	dles	L	R		32	28
14	148	874	the	L	D		32	28
14	149	875	world	L	D	/	32	28
14	150	876	To	L	R		33	29
14	151	877	match	L	U	/	33	29
14	152	878	the	L	R		33	29
14	153	879	child	L	D	/	33	29
14	154	880	that	L	R		34	29
14	155	881	was	L	R		34	29
14	156	882	once	L	R	/	34	29
14	157	883	your	L	R		34	29
14	158	884	self	L	R	/	34	29
14	158	885	self	B	D	/	34	29
14	159	886	The	L	U		35	30
14	160	887	fur	H	U	/	35	30
14	161	888	ther	L	D		35	30
14	162	889	off	L	R		35	30
14	163	890	peo	L	R		35	30
14	164	891	ple	L	R		35	30
14	165	892	are	M	U	/	36	31
14	166	893	some	L	D	/	36	31
14	167	894	times	L	D		36	31
14	168	895	the	L	R		37	32
14	169	896	larg	L	U	/	37	32
14	170	897	er	B	D		37	32
15	1	898	The	L	#		1	1
15	2	899	fur	M	U	/	1	1
15	3	900	ther	M	R		1	1
15	4	901	off	L	D		1	1
15	5	902	peo	L	D	/	1	1
15	6	903	ple	L	R		1	1
15	7	904	are	L	D		2	1
15	8	905	the	L	R		2	1
15	9	906	small	L	U	/	2	1
15	10	907	er	B	D		2	1
15	11	908	Grand	L	U	/	3	2
15	12	909	pa	L	R		3	2
15	13	910	rents	L	U		3	2
15	14	911	Ho	M	U		4	3
15	15	912	me	H	U	/	4	3
15	16	913	ric	H	R		4	3
15	17	914	he	M	D	/	4	3
15	17	915	he	B	D	/	4	3

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
15	18	916	roes	B	R		4	3
15	19	917	and	B	R		5	4
15	20	918	suff	L	U	/	5	4
15	21	919	e	L	R		5	4
15	22	920	ring	L	R		5	4
15	23	921	Ban	L	R	/	5	4
15	24	922	tu	L	R	/	5	4
15	24	923	tu	L	U	/	5	4
15	25	924	Are	L	D		6	5
15	26	925	no	L	U	/	6	5
15	27	926	thing	B	D		6	5
15	28	927	in	B	R		6	5
15	29	928	size	L	U	/	6	5
15	29	929	size	B	D	/	6	5
15	30	930	to	B	R		7	6
15	31	931	the	B	R		7	6
15	32	932	tax	L	U	/	7	6
15	33	933	co	B	D		7	6
15	34	934	llect	B	R	'	7	6
15	35	935	or	B	R		7	6
15	36	936	Or	H	U		8	7
15	37	937	the	H	R		8	7
15	38	938	dent	H	U	/	8	7
15	39	939	ist	L	D		8	7
15	40	940	breath	L	U	'	9	8
15	41	941	ing	L	R		9	8
15	42	942	fire	L	R	/	9	8
15	42	943	fire	B	D	/	9	8
15	43	944	on	L	U		10	9
15	44	945	one's	L	R		10	9
15	45	946	uv	L	R	/	10	9
15	46	947	u	B	D		10	9
15	47	948	la	B	R		10	9
15	48	949	So	T	U	/	11	10
15	49	950	the	H	D		12	10
15	50	951	stunt	H	U	/	12	10
15	51	952	ed	H	R		12	10
15	52	953	com	L	D		12	10
15	53	954	miss	L	R		12	10
15	54	955	on	L	R		12	10
15	55	956	aire	L	D	/	12	10
15	55	957	aire	L	D	/	12	10
15	56	958	bulks	M	U	/	13	11
15	57	959	larg	H	U	/	13	11
15	58	960	er	L	D		13	11
15	59	961	Than	L	U		14	12
15	60	962	the	L	R		14	12
15	61	963	mass	L	R	/	14	12
15	62	964	ive	L	D		14	12
15	63	965	mag	L	D	/	14	12
15	64	966	nate	L	U		14	12
15	65	967	at	L	D		15	13
15	66	968	the	L	R		15	13
15	67	969	turn	L	U	/	15	13
15	68	970	of	L	D		15	13
15	69	971	the	L	R		15	13
15	70	972	stairs	B	D	/	15	13
15	70	973	stairs	L	U	/	15	13
15	71	974	While	H	U		16	14
15	72	975	the	H	R		16	14
15	73	976	coff	H	U	/	16	14

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
15	74	977	in	L	D		16	14
15	75	978	ent	L	U	/	17	15
15	76	979	er	L	R		17	15
15	77	980	ing	L	D		17	15
15	78	981	by	L	U		18	16
15	79	982	the	L	R		18	16
15	80	983	west	L	U	/	18	16
15	81	984	door	L	R	/	18	16
15	81	985	door	H	U	/	18	16
15	82	986	Screens	H	R	/	19	17
15	82	987	Screens	L	D	/	19	17
15	83	988	the	L	R		20	18
15	84	989	chan	M	U	/	20	18
15	85	990	cel	L	D		20	18
15	86	991	and	L	U		21	19
15	87	992	dwarfs	M	U	/	21	19
15	88	993	the	M	R		22	19
15	89	994	al	M	R	/	22	19
15	90	995	tar	L	D		22	19
15	91	996	Yet	H	U		23	20
15	92	997	some	T	U	/	23	20
15	93	998	times	L	D		23	20
15	93	999	times	L	U		23	20
15	94	1000	for	L	D		24	21
15	95	1001	all	M	U	/	24	21
15	96	1002	these	L	D		24	21
15	97	1003	rules	L	R	/	24	21
15	97	1004	rules	L	D	/	24	21
15	98	1005	of	L	R		25	21
15	99	1006	per	L	R		25	21
15	100	1007	spec	M	U	/	25	21
15	101	1008	tive	B	D		25	21
15	102	1009	The	L	U		26	22
15	103	1010	weak	L	U	/	26	22
15	104	1011	eye	L	R		26	22
15	105	1012	zooms	L	R	/	26	22
15	105	1013	zooms	M	U	/	26	22
15	106	1014	the	H	U		27	23
15	107	1015	dis	H	U	/	27	23
15	108	1016	tant	H	R		27	23
15	109	1017	midg	H	D	/	27	23
15	110	1018	et	H	R		27	23
15	111	1019	Ex	L	D		28	23
15	112	1020	pands	H	U	/	28	23
15	112	1021	pands	L	D	/	28	23
15	112	1022	pands	M	U	/	28	23
15	113	1023	to	M	R		29	23
15	114	1024	meet	M	R	/	29	23
15	115	1025	it	H	U		29	23
15	116	1026	far	L	D	/	30	24
15	117	1027	up	L	R		30	24
15	118	1028	stage	L	U	/	30	24
15	119	1029	The	L	R		31	24
15	120	1030	kings	M	U	/	31	24
15	120	1031	kings	B	D	/	31	24
15	121	1032	go	L	U		32	25
15	122	1033	tow	M	U	/	32	25
15	123	1034	er	B	D		32	25
15	124	1035	ing	L	U		32	25
15	125	1036	in	L	U		33	26
15	126	1037	to	L	R		33	26

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
15	127	1038	the	L	R		33	26
15	128	1039	flies	L	D	/	33	26
15	128	1040	flies	B	D	/	33	26
15	129	1041	And	L	U		34	27
15	130	1042	down	H	U	/	34	27
15	131	1043	at	H	R		35	27
15	132	1044	the	H	R		35	27
15	133	1045	end	L	D	/	35	27
15	134	1046	of	L	R		36	27
15	135	1047	a	L	R		36	27
15	136	1048	queue	L	D	/	36	27
15	136	1049	queue	L	D	/	36	27
15	137	1050	some	L	U		37	28
15	138	1051	in	L	R	/	37	28
15	139	1052	fant	B	D		37	28
15	140	1053	Of	L	U		38	29
15	141	1054	the	L	R		38	29
15	142	1055	year	L	U	/	38	29
15	143	1056	Two	L	R		38	29
15	144	1057	Thou	L	R	/	38	29
15	145	1058	sand	L	D		38	29
15	145	1059	sand	L	U		38	29
15	146	1060	strad	H	U	/	39	30
15	147	1061	dles	H	R		39	30
15	148	1062	the	_	D		40	30
15	149	1063	world	M	U	/	40	30
15	149	1064	world	B	D	/	40	30
15	150	1065	To	_	U		41	31
15	151	1066	match	_	R	'	41	31
15	152	1067	the	_	R		41	31
15	153	1068	child	_	U	/	41	31
15	153	1069	child	B	D	/	41	31
15	154	1070	that	_	U		42	32
15	155	1072	was	M	R		42	32
15	156	1071	once	M	U	/	42	32
15	157	1073	your	_	D		42	32
15	158	1074	self	M	U	/	42	32
15	158	1075	self	B	D	/	42	32
15	159	1076	The	B	R		43	33
15	160	1077	fur	_	U	/	43	33
15	161	1078	ther	_	R		43	33
15	162	1079	off	_	R		43	33
15	163	1080	peo	_	R	/	43	33
15	164	1081	ple	_	U		43	33
15	165	1082	are	_	U		44	33
15	166	1083	some	M	U	/	44	33
15	167	1084	times	M	R		44	33
15	168	1085	the	_	D		45	33
15	169	1086	larg	M	U	/	45	33
15	170	1087	er	B	D		45	33
16	1	1088	The	M	#		1	1
16	2	1089	fur	H	U	/	1	1
16	3	1090	ther	H	R		1	1
16	4	1091	off	M	D		1	1
16	5	1092	peo	H	U	'	1	1
16	6	1093	ple	H	R		1	1
16	7	1094	are	L	D	/	1	1
16	7	1095	are	L	D	/	1	1
16	8	1096	the	L	U		2	2
16	9	1097	small	L	U	/	2	2
16	10	1098	er	B	D		2	2

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
16	11	1099	Grand	L	U	/	3	3
16	12	1100	pa	L	R		3	3
16	13	1101	rents	M	U		3	3
16	14	1102	Ho	L	D		4	4
16	15	1103	me	M	U	/	4	4
16	16	1104	ric	M	R		4	4
16	17	1105	he	L	D	/	4	4
16	18	1106	roes	L	R		4	4
16	19	1107	and	L	R		5	5
16	20	1108	suff	M	U	/	5	5
16	21	1109	e	M	R		5	5
16	22	1110	ring	M	R		5	5
16	23	1111	Ban	M	R	/	5	5
16	24	1112	tu	L	D		5	5
16	25	1113	Are	M	U		6	6
16	26	1114	no	H	U	/	6	6
16	27	1115	thing	L	D		6	6
16	28	1116	in	L	R		6	6
16	29	1117	size	L	R	/	6	6
16	29	1118	size	L	D	/	6	6
16	30	1119	to	L	U		7	7
16	31	1120	the	L	R		7	7
16	32	1121	tax	M	U	/	7	7
16	33	1122	co	M	R		7	7
16	34	1123	llect	M	R	/	7	7
16	35	1124	or	L	D		7	7
16	36	1125	Or	L	D		8	8
16	37	1126	the	L	R		8	8
16	38	1127	dent	M	U	/	8	8
16	39	1128	list	M	R		8	8
16	40	1129	breath	M	R	'	8	8
16	41	1130	ing	M	R		8	8
16	42	1131	fire	M	R	/	8	8
16	42	1132	fire	L	D	/	8	8
16	43	1133	on	L	U		9	9
16	44	1134	one's	L	R		9	9
16	45	1135	uv	M	U	/	9	9
16	46	1136	u	L	D		9	9
16	47	1137	la	L	R		9	9
16	48	1138	So	H	U		10	10
16	49	1139	the	H	R		10	10
16	50	1140	stunt	H	U	/	10	10
16	51	1141	ed	H	R		10	10
16	52	1142	com	H	D		10	10
16	53	1143	miss	H	R		10	10
16	54	1144	on	H	R		10	10
16	55	1145	aire	H	U	/	10	10
16	55	1146	aire	L	D	/	10	10
16	56	1147	bulks	L	D	'	11	11
16	57	1148	larg	M	U	/	11	11
16	58	1149	er	M	R		11	11
16	59	1150	Than	L	D		12	12
16	60	1151	the	L	R		12	12
16	61	1152	mass	M	U	/	12	12
16	62	1153	ive	M	R		12	12
16	63	1154	mag	M	R	/	12	12
16	64	1155	nate	L	D		12	12
16	65	1156	at	L	U		13	13
16	66	1157	the	L	R		13	13
16	67	1158	turn	M	U	/	13	13
16	68	1159	of	L	D		13	13

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
16	69	1160	the	L	R		13	13
16	70	1161	stairs	L	U	/	13	13
16	70	1162	stairs	L	D	/	13	13
16	71	1163	While	L	U		14	14
16	72	1164	the	L	R		14	14
16	73	1165	coff	M	U	/	14	14
16	74	1166	in	L	D		14	14
16	75	1167	ent	M	U	/	15	15
16	76	1168	er	M	R		15	15
16	77	1169	ing	M	R		15	15
16	78	1170	by	L	D		15	15
16	79	1171	the	L	R		15	15
16	80	1172	west	L	U	'	15	15
16	81	1173	door	L	R	/	15	15
16	81	1174	door	L	D	/	15	15
16	82	1175	Screens	M	U	/	16	16
16	83	1176	the	L	D		16	16
16	84	1177	chan	M	U	/	16	16
16	85	1178	cel	B	D		16	16
16	86	1179	and	M	U		17	17
16	87	1180	dwarfs	L	D	/	17	17
16	88	1181	the	L	D		17	17
16	89	1182	al	M	U	/	17	17
16	90	1183	tar	B	D		17	17
16	91	1184	Yet	H	U		18	18
16	92	1185	some	T	U	/	18	18
16	93	1186	times	H	D		18	18
16	94	1187	for	H	R		19	19
16	95	1188	all	H	U	/	19	19
16	96	1189	these	M	D		19	19
16	97	1190	rules	M	R	/	19	19
16	98	1191	of	L	D		19	19
16	99	1192	per	L	R		19	19
16	100	1193	spec	M	U	/	19	19
16	101	1194	tive	L	D		19	19
16	102	1195	The	L	U		20	20
16	103	1196	weak	H	U	/	20	20
16	104	1197	eye	M	D		20	20
16	105	1198	zooms	M	R	/	20	20
16	105	1199	zooms	L	D	/	20	20
16	106	1200	the	L	U		21	21
16	107	1201	dis	M	U	/	21	21
16	108	1202	tant	L	D		21	21
16	109	1203	midg	M	U	/	21	21
16	110	1204	et	L	D		21	21
16	111	1205	Ex	L	U		22	22
16	112	1206	pands	M	U	/	22	22
16	112	1207	pands	L	D	/	22	22
16	113	1208	to	L	D		23	22
16	114	1209	meet	L	U	/	23	22
16	115	1210	it	B	D		23	22
16	116	1211	far	H	U	/	24	23
16	117	1212	up	M	D		24	23
16	118	1213	stage	L	D	/	24	23
16	118	1214	stage	L	D	/	24	23
16	119	1215	The	L	U		25	24
16	120	1216	kings	M	U	/	25	24
16	121	1217	go	L	D		25	24
16	122	1218	tow	L	R	/	25	24
16	123	1219	er	L	D		25	24
16	124	1220	ing	L	R		25	24

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
16	125	1221	in	L	U		26	24
16	126	1222	to	L	R		26	24
16	127	1223	the	L	D		26	24
16	128	1224	flies	L	U	/	26	24
16	128	1225	flies	B	D	/	26	24
16	129	1226	And	L	U		27	25
16	130	1227	down	H	U	/	27	25
16	131	1228	at	H	R		27	25
16	132	1229	the	H	R		27	25
16	133	1230	end	L	D	/	27	25
16	134	1231	of	L	D		27	25
16	135	1232	a	L	R		27	25
16	136	1233	queue	L	U	/	27	25
16	137	1234	some	L	D	'	28	26
16	138	1235	in	M	U	/	28	26
16	139	1236	fant	M	R		28	26
16	140	1237	Of	L	D		29	26
16	141	1238	the	L	R		29	26
16	142	1239	year	L	R	/	29	26
16	143	1240	Two	L	U		29	26
16	144	1241	Thou	L	D	/	29	26
16	145	1242	sand	L	D		29	26
16	146	1243	strad	M	U	/	30	27
16	147	1244	dles	M	R		30	27
16	148	1245	the	L	D		30	27
16	149	1246	world	L	D	/	30	27
16	150	1247	To	L	U		31	28
16	151	1248	match	M	U	/	31	28
16	152	1249	the	M	R		31	28
16	153	1250	child	L	D	/	31	28
16	153	1251	child	L	D	/	31	28
16	154	1252	that	L	U		32	29
16	155	1253	was	L	R		32	29
16	156	1254	once	L	D	/	32	29
16	157	1255	your	L	R		32	29
16	158	1256	self	L	R	/	32	29
16	158	1257	self	L	D	/	32	29
16	159	1258	The	L	U		33	30
16	160	1259	fur	H	U	/	33	30
16	161	1260	ther	H	R		33	30
16	162	1261	off	M	D		33	30
16	163	1262	peo	M	R	'	33	30
16	164	1263	ple	M	R		33	30
16	165	1264	are	M	R	/	33	30
16	165	1265	are	L	D	/	33	30
16	166	1266	some	M	U	/	34	31
16	167	1267	times	L	D		34	31
16	168	1268	the	L	R		35	32
16	169	1269	larg	M	U	/	35	32
16	170	1270	er	B	D		35	32
17	1	1271	The	H	#		1	1
17	2	1272	fur	H	U	/	1	1
17	3	1273	ther	H	D		1	1
17	4	1274	off	H	U		1	1
17	5	1275	peo	H	D	/	1	1
17	6	1276	ple	H	R		1	1
17	7	1277	are	M	D		1	1
17	8	1278	the	M	R		1	1
17	9	1279	small	L	D	/	1	1
17	10	1280	er	H	U		1	1
17	11	1281	Grand	H	U	/	2	2

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
17	12	1282	pa	L	D	'	2	2
17	13	1283	rents	M	U		2	2
17	14	1284	Ho	M	R		3	3
17	15	1285	me	H	U	/	3	3
17	16	1286	ric	H	R		3	3
17	17	1287	he	H	R	/	3	3
17	17	1288	he	M	D	/	3	3
17	18	1289	roes	M	R		3	3
17	19	1290	and	M	R		4	4
17	20	1291	suff	H	U	/	4	4
17	21	1292	e	H	R		4	4
17	22	1293	ring	H	R		4	4
17	23	1294	Ban	H	R	/	4	4
17	24	1295	tu	M	D		4	4
17	25	1296	Are	M	R		5	5
17	26	1297	no	H	U	/	5	5
17	27	1298	thing	L	D		5	5
17	28	1299	in	L	R		6	5
17	29	1300	size	L	R	/	6	5
17	29	1301	size	H	U	/	6	5
17	30	1302	to	L	D		7	6
17	31	1303	the	L	R		7	6
17	32	1304	tax	L	R	/	7	6
17	33	1305	co	L	R		7	6
17	34	1306	llect	L	R	'	7	6
17	35	1307	or	M	U		7	6
17	36	1308	Or	M	R		8	7
17	37	1309	the	M	R		8	7
17	38	1310	dent	L	D	/	8	7
17	39	1311	ist	M	U		8	7
17	40	1312	breath	M	R		9	8
17	41	1313	ling	M	R		9	8
17	42	1314	fire	L	D	/	9	8
17	42	1315	fire	M	U	/	9	8
17	43	1316	on	M	R		10	9
17	44	1317	one's	M	R		10	9
17	45	1318	uv	L	D	/	10	9
17	46	1319	u	M	U		10	9
17	47	1320	la	M	R		10	9
17	48	1321	So	H	U		11	10
17	49	1322	the	H	R		11	10
17	50	1323	stunt	H	U	/	11	10
17	51	1324	ed	H	R		11	10
17	52	1325	com	H	R		11	10
17	53	1326	miss	H	R	/	11	10
17	54	1327	on	H	D		11	10
17	55	1328	aire	H	R		11	10
17	56	1329	bulks	H	R		12	11
17	57	1330	larg	H	U	/	12	11
17	58	1331	er	M	D		12	11
17	59	1332	Than	M	R		13	12
17	60	1333	the	M	R		13	12
17	61	1334	mass	H	U	/	13	12
17	62	1335	ive	H	U		13	12
17	63	1336	mag	H	D	/	13	12
17	64	1337	nate	L	D		13	12
17	65	1338	at	L	R		14	13
17	66	1339	the	L	R		14	13
17	67	1340	turn	M	U	/	14	13
17	68	1341	of	L	D		15	13
17	69	1342	the	L	R		15	13

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
17	70	1343	stairs	M	U	/	15	13
17	71	1344	While	M	R		16	14
17	72	1345	the	M	R		16	14
17	73	1346	coff	H	U	/	16	14
17	74	1347	in	L	D		16	14
17	75	1348	ent	H	U	/	17	15
17	76	1349	er	H	R		17	15
17	77	1350	ing	H	R		17	15
17	78	1351	by	M	D		17	15
17	79	1352	the	M	R		17	15
17	80	1353	west	H	U	/	17	15
17	81	1354	door	L	D	/	17	15
17	82	1355	Screens	H	U	/	18	16
17	83	1356	the	M	D		18	16
17	84	1357	chan	H	U	/	18	16
17	85	1358	cel	L	D		18	16
17	86	1359	land	L	R		19	17
17	87	1360	dwarfs	M	U	/	19	17
17	88	1361	the	L	D		19	17
17	89	1362	al	M	U	/	19	17
17	90	1363	tar	B	D		19	17
17	91	1364	Yet	H	U	/	20	18
17	91	1365	Yet	L	D	/	20	18
17	91	1366	Yet	M	U	/	20	18
17	92	1367	some	H	U	/	21	19
17	93	1368	times	L	D		21	19
17	94	1369	for	M	U		22	20
17	95	1370	all	H	U	/	22	20
17	96	1371	these	H	R		22	20
17	97	1372	rules	M	D	/	22	20
17	98	1373	of	M	R		22	20
17	99	1374	per	M	R		22	20
17	100	1375	spec	H	U	/	22	20
17	101	1376	tive	L	D		22	20
17	102	1377	The	L	R		23	21
17	103	1378	weak	M	U	/	23	21
17	104	1379	eye	M	R	/	23	21
17	105	1380	zooms	M	R	/	23	21
17	105	1381	zooms	L	D	/	23	21
17	106	1382	the	L	U		24	22
17	107	1383	dis	M	U	/	24	22
17	108	1384	tant	M	R		24	22
17	109	1385	midg	L	D	/	24	22
17	110	1386	let	L	R		24	22
17	111	1387	Ex	L	R		24	22
17	112	1388	pands	L	R	/	24	22
17	112	1389	pands	B	D	/	24	22
17	113	1390	to	L	U		25	22
17	114	1391	meet	L	U	/	25	22
17	115	1392	it	B	D		25	22
17	116	1393	far	M	U	/	26	23
17	117	1394	up	M	R		26	23
17	118	1395	stage	L	D	/	26	23
17	119	1396	The	L	R		27	24
17	120	1397	kings	L	U	/	27	24
17	121	1398	go	L	R		27	24
17	122	1399	tow	L	P	/	27	24
17	123	1400	er	L	D		27	24
17	124	1401	ing	L	R		27	24
17	125	1402	in	L	U		28	24
17	126	1403	to	L	R		28	24

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
17	127	1404	the	L	R		28	24
17	128	1405	flies	L	U	/	28	24
17	128	1406	flies	B	D	/	28	24
17	129	1407	And	L	U		29	25
17	130	1408	down	M	U	/	29	25
17	131	1409	at	M	R		29	25
17	132	1410	the	M	R		29	25
17	133	1411	end	M	R	/	29	25
17	134	1412	of	M	R		29	25
17	135	1413	a	M	R		29	25
17	136	1414	queue	L	D	/	29	25
17	136	1415	queue	L	D	/	29	25
17	137	1416	some	M	U		30	26
17	138	1417	in	M	R	/	30	26
17	139	1418	fant	L	D		30	26
17	140	1419	Of	L	U		31	27
17	141	1420	the	L	R		31	27
17	142	1421	year	L	R	/	31	27
17	143	1422	Two	L	R		31	27
17	144	1423	Thou	L	R	/	31	27
17	145	1424	sand	L	D		31	27
17	146	1425	strad	L	U	/	32	28
17	147	1426	dles	L	R		32	28
17	148	1427	the	L	R		32	28
17	149	1428	world	L	D	/	32	28
17	149	1429	world	L	D	/	32	28
17	150	1430	To	L	R		33	29
17	151	1431	match	L	U	/	33	29
17	152	1432	the	L	R		33	29
17	153	1433	child	L	R	/	33	29
17	153	1434	child	L	D	/	33	29
17	154	1435	that	L	U		34	30
17	155	1436	was	L	R		34	30
17	156	1437	once	L	D	/	34	30
17	157	1438	your	L	D		34	30
17	158	1439	self	L	D	/	34	30
17	158	1440	self	B	D	/	34	30
17	159	1441	The	L	U		35	31
17	160	1442	fur	M	U	/	35	31
17	161	1443	ther	M	R		35	31
17	162	1444	off	M	R		35	31
17	163	1445	peo	L	D	/	35	31
17	164	1446	ple	L	D		35	31
17	165	1447	are	L	R		36	32
17	166	1448	some	L	U	/	36	32
17	167	1449	times	L	R		36	32
17	168	1450	the	L	R		36	32
17	169	1451	larg	L	D	/	36	32
17	170	1452	er	L	R		36	32
18	1	1453	The	M	#		1	1
18	2	1454	fur	H	U	/	1	1
18	3	1455	ther	M	D		1	1
18	4	1456	off	H	U	/	1	1
18	5	1457	peo	L	D	'	1	1
18	6	1458	ple	L	R		1	1
18	7	1459	are	L	D	'	1	1
18	8	1460	the	L	R		2	1
18	9	1461	small	L	U	/	2	1
18	10	1462	er	B	D		2	1
18	11	1463	Grand	H	U	/	3	2
18	12	1464	pa	H	R		3	2

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
18	13	1465	rents	H	R		3	2
18	14	1466	Ho	L	D		4	3
18	15	1467	me	M	U	/	4	3
18	16	1468	ric	M	R		4	3
18	17	1469	he	M	R	/	4	3
18	17	1470	he	L	D	/	4	3
18	18	1471	roes	L	D		4	3
18	19	1472	and	L	R		5	4
18	20	1473	suff	M	U	/	5	4
18	21	1474	e	M	R		5	4
18	22	1475	ring	M	R		5	4
18	23	1476	Ban	M	R	/	5	4
18	24	1477	tu	L	D		5	4
18	25	1478	Are	M	U		6	5
18	26	1479	no	H	U	/	6	5
18	27	1480	thing	M	D		6	5
18	28	1481	in	M	R		6	5
18	29	1482	size	M	R	/	6	5
18	29	1483	size	L	D	/	6	5
18	30	1484	to	L	R		7	6
18	31	1485	the	L	R		7	6
18	32	1486	tax	H	U	/	7	6
18	33	1487	co	M	D		7	6
18	34	1488	llect	L	D	'	7	6
18	35	1489	or	L	D		7	6
18	36	1490	Or	L	U		8	7
18	37	1491	the	L	R		8	7
18	38	1492	dent	M	U	/	8	7
18	39	1493	ist	L	D		8	7
18	40	1494	breath	L	U	'	9	8
18	41	1495	ing	L	R		9	8
18	42	1496	fire	M	U	/	9	8
18	42	1497	fire	L	D	/	9	8
18	43	1498	on	L	U		10	9
18	44	1499	one's	L	R		10	9
18	45	1500	uv	M	U	/	10	9
18	46	1501	u	L	D		10	9
18	47	1502	la	L	R		10	9
18	48	1503	So	L	U		11	10
18	49	1504	the	L	R		11	10
18	50	1505	stunt	H	U	/	11	10
18	51	1506	ed	H	R		11	10
18	52	1507	com	L	D		11	10
18	53	1508	miss	L	R	'	11	10
18	54	1509	on	L	R		11	10
18	55	1510	aire	H	U	/	11	10
18	55	1511	aire	L	D	/	11	10
18	56	1512	bulks	L	U	'	12	11
18	57	1513	larg	M	U	/	12	11
18	58	1514	er	M	R		12	11
18	59	1515	Than	L	D		12	11
18	60	1516	the	L	R		12	11
18	61	1517	mass	M	U	/	12	11
18	62	1518	ive	L	D		12	11
18	63	1519	mag	M	U	/	12	11
18	64	1520	nate	L	D		12	11
18	65	1521	at	L	R		13	12
18	66	1522	the	L	R		13	12
18	67	1523	turn	M	U	/	13	12
18	68	1524	of	L	D		13	12
18	69	1525	the	L	R		13	12

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
18	70	1526	stairs	M	U	/	13	12
18	70	1527	stairs	L	D	/	13	12
18	71	1528	While	L	U		14	13
18	72	1529	the	L	R		14	13
18	73	1530	coff	H	U	/	14	13
18	74	1531	in	L	D		14	13
18	75	1532	ent	M	U	/	15	14
18	76	1533	er	M	R		15	14
18	77	1534	ing	M	R		15	14
18	78	1535	by	L	D		15	14
18	79	1536	the	L	R		15	14
18	80	1537	west	M	U	'	15	14
18	81	1538	door	L	D	/	15	14
18	81	1539	door	L	D	/	15	14
18	82	1540	Screens	H	U	/	16	15
18	83	1541	the	L	D		16	15
18	84	1542	chan	M	U	/	16	15
18	85	1543	cel	L	D		16	15
18	86	1544	and	L	R		17	15
18	87	1545	dwarfs	L	U	/	17	15
18	88	1546	the	L	D		17	15
18	89	1547	al	L	U	/	17	15
18	90	1548	tar	B	D		17	15
18	91	1549	Yet	L	U		18	16
18	92	1550	some	T	U	/	18	16
18	93	1551	times	L	D		18	16
18	93	1552	times	L	D		18	16
18	94	1553	for	L	U		19	17
18	95	1554	all	H	U	/	19	17
18	96	1555	these	L	D		19	17
18	97	1556	rules	M	U	/	19	17
18	98	1557	of	L	D		19	17
18	99	1558	per	L	R		19	17
18	100	1559	spec	M	U	/	19	17
18	101	1560	tive	L	D		19	17
18	102	1561	The	L	U		20	18
18	103	1562	weak	M	U	/	20	18
18	104	1563	eye	L	D	/	20	18
18	105	1564	zooms	M	U	/	21	18
18	105	1565	zooms	L	D	/	21	18
18	106	1566	the	L	U		22	19
18	107	1567	dis	H	U	/	22	19
18	108	1568	tant	H	D		22	19
18	109	1569	midg	H	U	/	22	19
18	110	1570	et	L	D		22	19
18	111	1571	Ex	L	U		23	20
18	112	1572	pands	H	U	/	23	20
18	112	1573	pands	L	D	/	23	20
18	113	1574	to	L	R		24	20
18	114	1575	meet	M	U	/	24	20
18	115	1576	it	L	D		24	20
18	116	1577	far	M	U	/	25	21
18	117	1578	up	L	D		25	21
18	118	1579	stage	M	U	/	25	21
18	118	1580	stage	L	D	/	25	21
18	119	1581	The	L	U		26	22
18	120	1582	kings	H	U	/	26	22
18	121	1583	go	L	D		27	22
18	122	1584	tow	H	U	/	27	22
18	123	1585	er	L	D		27	22
18	124	1586	ing	L	D		27	22

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
18	125	1587	in	L	R		28	22
18	126	1588	to	L	R		28	22
18	127	1589	the	L	R		28	22
18	128	1590	flies	L	U	/	28	22
18	128	1591	flies	L	D	/	28	22
18	129	1592	And	L	U		29	23
18	130	1593	down	H	U	/	29	23
18	131	1594	at	H	R		30	23
18	132	1595	the	H	R		30	23
18	133	1596	end	M	D	/	30	23
18	134	1597	of	M	R		31	23
18	135	1598	a	M	R		31	23
18	136	1599	queue	L	D	/	31	23
18	136	1600	queue	L	D	/	31	23
18	137	1601	some	L	R		32	24
18	138	1602	in	M	U	/	32	24
18	139	1603	fant	L	D		32	24
18	140	1604	Of	L	D		33	25
18	141	1605	the	L	R		33	25
18	142	1606	year	L	U	/	33	25
18	143	1607	Two	H	U	/	33	25
18	144	1608	Thou	L	D	/	33	25
18	145	1609	sand	L	R		33	25
18	146	1610	strad	M	U	/	34	26
18	147	1611	dles	L	D		34	26
18	148	1612	the	L	D		35	26
18	149	1613	world	L	U	/	35	26
18	149	1614	world	B	D	/	35	26
18	150	1615	To	L	U		36	27
18	151	1616	match	M	U	/	36	27
18	152	1617	the	L	D		36	27
18	153	1618	child	L	U	/	36	27
18	153	1619	child	L	D	/	36	27
18	154	1620	that	L	R		37	28
18	155	1621	was	L	R		37	28
18	156	1622	once	L	U	/	37	28
18	157	1623	your	L	D		37	28
18	158	1624	self	L	U	/	37	28
18	158	1625	self	B	D	/	37	28
18	159	1626	The	L	U		38	29
18	160	1627	fur	L	U	/	38	29
18	161	1628	ther	L	D		38	29
18	162	1629	off	M	U	/	38	29
18	163	1630	peo	L	D	'	38	29
18	164	1631	ple	L	R		38	29
18	165	1632	are	L	R		39	30
18	166	1633	some	M	U	/	39	30
18	167	1634	times	L	D		39	30
18	168	1635	the	L	R		40	31
18	169	1636	larg	L	U	/	40	31
18	170	1637	er	B	D		40	31
19	1	1638	The	M	#		1	1
19	2	1639	fur	T	U	/	1	1
19	3	1640	ther	M	D		1	1
19	4	1641	off	H	U	/	1	1
19	5	1642	peo	L	D	'	1	1
19	6	1643	ple	L	R		1	1
19	7	1644	are	L	R	/	1	1
19	7	1645	are	L	U	/	1	1
19	8	1646	the	M	U		2	1
19	9	1647	small	H	U	/	2	1

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
19	10	1648	er	L	D		2	1
19	11	1649	Grand	M	U	/	3	2
19	12	1650	pa	M	R	'	3	2
19	13	1651	rents	M	R		3	2
19	14	1652	Ho	L	D		4	3
19	15	1653	me	L	U	/	4	3
19	16	1654	ric	L	R		4	3
19	17	1655	he	M	U	/	4	3
19	18	1656	roes	L	D		4	3
19	19	1657	and	L	U		5	4
19	20	1658	suff	M	U	/	5	4
19	21	1659	e	M	R		5	4
19	22	1660	ring	M	R		5	4
19	23	1661	Ban	M	R	/	5	4
19	24	1662	tu	L	D		5	4
19	25	1663	Are	M	U		6	5
19	26	1664	no	H	U	/	6	5
19	27	1665	thing	L	D		6	5
19	28	1666	in	L	D		6	5
19	29	1667	size	L	U	/	6	5
19	30	1668	to	L	D		7	5
19	31	1669	the	L	R		7	5
19	32	1670	tax	L	U	/	7	5
19	33	1671	co	M	U		7	5
19	34	1672	llect	M	R	'	7	5
19	35	1673	or	M	R		7	5
19	36	1674	Or	L	D		8	6
19	37	1675	the	L	D		8	6
19	38	1676	dent	M	U	/	8	6
19	39	1677	list	L	D		8	6
19	40	1678	breath	L	U		9	6
19	41	1679	ing	L	R		9	6
19	42	1680	fire	L	U	/	9	6
19	42	1681	fire	L	D	/	9	6
19	43	1682	on	L	R		10	6
19	44	1683	one's	L	R		10	6
19	45	1684	uv	L	U	/	10	6
19	46	1685	u	L	D		10	6
19	47	1686	la	L	R		10	6
19	48	1687	So	M	U		11	7
19	49	1688	the	M	R		11	7
19	50	1689	stunt	H	U	/	11	7
19	51	1690	ed	H	R		11	7
19	52	1691	com	L	D		11	7
19	53	1692	miss	M	U	'	11	7
19	54	1693	on	L	D		11	7
19	55	1694	aire	M	U	/	11	7
19	55	1695	aire	L	D	/	11	7
19	56	1696	bulks	M	U		12	8
19	57	1697	larg	H	U	/	12	8
19	58	1698	er	L	D		12	8
19	59	1699	Than	L	R		13	9
19	60	1700	the	L	R		13	9
19	61	1701	mass	M	U	/	13	9
19	62	1702	ive	H	U		13	9
19	63	1703	mag	L	D	/	13	9
19	64	1704	nate	L	D		13	9
19	65	1705	at	L	R		14	10
19	66	1706	the	L	R		14	10
19	67	1707	turn	M	U	/	14	10
19	67	1708	turn	L	D	/	14	10

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
19	68	1709	of	L	R		15	10
19	69	1710	the	L	U		15	10
19	70	1711	stairs	M	U	/	15	10
19	70	1712	stairs	L	D	/	15	10
19	71	1713	While	M	U		16	11
19	72	1714	the	H	U		16	11
19	73	1715	coff	H	U	/	16	11
19	74	1716	in	L	D		16	11
19	75	1717	ent	H	U	/	17	11
19	76	1718	er	L	D		17	11
19	77	1719	ing	L	R		17	11
19	78	1720	by	L	R		18	11
19	79	1721	the	L	R		18	11
19	80	1722	west	H	U	/	18	11
19	81	1723	door	H	R	/	18	11
19	81	1724	door	L	D	/	18	11
19	82	1725	Screens	H	U	/	19	12
19	83	1726	the	H	R		19	12
19	84	1727	chan	H	R	/	19	12
19	85	1728	cel	L	D		19	12
19	86	1729	and	L	R		20	12
19	87	1730	dwarfs	M	U	/	20	12
19	87	1731	dwarfs	L	D	/	20	12
19	88	1732	the	L	R		21	12
19	89	1733	al	L	U	/	21	12
19	90	1734	tar	L	D		21	12
19	91	1735	Yet	H	U		22	13
19	92	1736	some	H	U	/	22	13
19	93	1737	times	L	D		22	13
19	94	1738	for	L	R		23	14
19	95	1739	all	M	U	/	23	14
19	96	1740	these	M	R		23	14
19	97	1741	rules	M	R	/	23	14
19	97	1742	rules	L	D	/	23	14
19	98	1743	of	L	R		24	15
19	99	1744	per	L	U		24	15
19	100	1745	spec	M	U	/	24	15
19	101	1746	tive	L	D		24	15
19	102	1747	The	L	U		25	16
19	103	1748	weak	M	U	/	25	16
19	104	1749	eye	M	R	/	25	16
19	104	1750	eye	L	D	/	25	16
19	105	1751	zooms	L	U	/	26	16
19	105	1752	zooms	L	D	/	26	16
19	106	1753	the	L	U		27	17
19	107	1754	dis	H	U	/	27	17
19	108	1755	tant	H	D		27	17
19	109	1756	midg	H	U	/	27	17
19	110	1757	et	L	D		27	17
19	111	1758	Ex	L	U		28	17
19	112	1759	pands	M	U	/	28	17
19	112	1760	pands	L	D	/	28	17
19	113	1761	to	L	R		29	17
19	114	1762	meet	L	U	/	29	17
19	115	1763	it	B	D		29	17
19	116	1764	far	L	U	/	30	18
19	116	1765	far	M	U	/	30	18
19	117	1766	up	M	R		30	18
19	118	1767	stage	M	R	/	30	18
19	118	1768	stage	L	D	/	30	18
19	119	1769	The	L	R		31	19

Reader	Syllable	Pitch ID	Syllable	Level	Movement	Accent	NG No	Tune No
19	120	1770	kings	M	U	/	31	19
19	121	1771	go	L	D		32	19
19	122	1772	tow	M	U	/	32	19
19	123	1773	er	L	D		32	19
19	124	1774	ing	L	R		32	19
19	125	1775	in	L	R		33	19
19	126	1776	to	L	R		33	19
19	127	1777	the	L	R		33	19
19	128	1778	flies	L	U	/	33	19
19	128	1779	flies	L	D	/	33	19
19	129	1780	And	L	U		34	20
19	130	1781	down	H	U	/	34	20
19	131	1782	at	H	R		34	20
19	132	1783	the	H	R		34	20
19	133	1784	end	H	R	/	34	20
19	133	1785	end	L	D	/	34	20
19	134	1786	of	L	D		34	20
19	135	1787	a	L	R		34	20
19	136	1788	queue	L	R	/	34	20
19	137	1789	some	L	U		35	21
19	138	1790	in	M	U	/	35	21
19	139	1791	fant	L	D		35	21
19	140	1792	Of	L	D		36	21
19	141	1793	the	L	R		36	21
19	142	1794	year	M	U	/	36	21
19	143	1795	Two	M	R	/	36	21
19	144	1796	Thou	M	R	/	36	21
19	145	1797	sand	L	D		36	21
19	146	1798	strad	M	U	/	37	22
19	147	1799	dles	M	R		37	22
19	148	1800	the	M	R		37	22
19	149	1801	world	M	R	/	37	22
19	149	1802	world	L	D	/	37	22
19	150	1803	To	L	U		38	23
19	151	1804	match	M	U	/	38	23
19	152	1805	the	M	R		38	23
19	153	1806	child	M	R	/	38	23
19	153	1807	child	L	D	/	38	23
19	154	1808	that	L	R		39	24
19	155	1809	was	L	R		39	24
19	156	1810	once	L	U	/	39	24
19	157	1811	your	L	D		39	24
19	158	1812	self	L	U	/	39	24
19	158	1813	self	B	D	/	39	24
19	159	1814	The	L	U		40	25
19	160	1815	fur	M	U	/	40	25
19	161	1816	ther	L	D		40	25
19	162	1817	off	M	U	/	40	25
19	163	1818	peo	L	D	/	40	25
19	164	1819	ple	L	R		40	25
19	165	1820	are	L	U		41	26
19	166	1821	some	L	U	/	41	26
19	167	1822	times	L	D		41	26
19	168	1823	the	L	R		42	26
19	169	1824	larg	L	U	/	42	26
19	170	1825	er	B	D		42	26

Reader	NG No
10	10
11	25
12	25
13	36
14	33
15	21
15	35
15	36
15	40
16	22
18	29
18	30

Reader	Tune No	Code	Subdivision
10	1	A	1b
10	2	A	3
10	3	F	
10	4	A	2a
10	5	A	2a
10	6	A	1c
10	7	A	3
10	8	A	3
10	9	A	3
10	10	A	1c
10	11	A	2c
10	12	A	2b
10	13	A	4c
10	14	A	1c
10	15	A	3
10	16	A	3
10	17	A	3
10	18	A	3
10	19	A	3
10	20	A	1a
10	21	A	1a
10	22	A	2a
10	23	A	2a
10	24	A	2a
10	25	A	1c
10	26	B	1a
10	27	A	1c
10	28	A	2a
10	29	A	1a
10	30	A	1c
10	31	A	1a
10	32	A	1c
11	1	A	1a
11	2	F	
11	3	A	2a
11	4	A	2a
11	5	B	1c
11	6	A	1c
11	7	A	1c
11	8	B	1c
11	9	A	3
11	10	A	1c
11	11	A	2c
11	12	A	2a
11	13	A	3
11	14	B	1a
11	15	A	1a
11	16	C	1
11	17	A	2a
11	18	A	1a
11	19	A	1c
11	20	B	4
11	21	C	2
11	22	A	1a
11	23	A	1a
11	24	A	1a
11	25	A	1a
12	1	B	2a
12	2	A	3
12	3	F	
12	4	A	2a
12	5	A	2a

Reader	Tune No	Code	Subdivision
12	6	B	4
12	7	C	1
12	8	C	1
12	9	B	3
12	10	C	1
12	11	A	1a
12	12	A	4a
12	13	A	3
12	14	A	2a
12	15	A	2a
12	16	A	2a
12	17	E	2
12	18	B	1a
12	19	A	2a
12	20	B	1a
12	21	A	1c
12	22	A	4c
12	23	B	2b
12	24	A	2b
12	25	A	1c
12	26	A	2a
12	27	A	2a
12	28	A	2b
12	29	A	3
12	30	A	3
13	1	A	1c
13	2	C	1
13	3	A	2a
13	4	A	2a
13	5	A	3
13	6	D	2a
13	7	A	3
13	8	A	2c
13	9	A	2a
13	10	A	1c
13	11	A	2a
13	12	A	2a
13	13	A	3
13	14	A	2a
13	15	A	2a
13	16	A	2a
13	17	A	3
13	18	B	4
13	19	A	1c
13	20	A	2a
13	21	A	3
13	22	A	3
13	23	A	2a
13	24	A	1c
13	25	A	1c
13	26	A	3
13	27	A	2c
13	28	A	4c
13	29	A	1a
13	30	A	1c
13	31	A	2a
13	32	A	3
13	33	A	3
14	1	A	2b
14	2	A	2c
14	3	C	1
14	4	A	2a

Reader	Tune No	Code	Subdivision
14	5	A	2c
14	6	B	4
14	7	A	4a
14	8	A	3
14	9	A	2c
14	10	A	3
14	11	A	2b
14	12	A	2c
14	13	A	2b
14	14	A	4c
14	15	A	1c
14	16	A	2b
14	17	A	2b
14	18	A	3
14	19	A	1c
14	20	A	1c
14	21	A	2b
14	22	A	3
14	23	A	3
14	24	A	2b
14	25	A	2a
14	26	A	1a
14	27	A	1c
14	28	A	1a
14	29	A	1a
14	30	A	4a
14	31	A	1a
14	32	A	3
15	1	A	1c
15	2	C	1
15	3	A	2a
15	4	C	1
15	5	A	4c
15	6	A	4a
15	7	A	3
15	8	A	2a
15	9	A	2a
15	10	A	1a
15	11	D	2b
15	12	B	1a
15	13	B	1a
15	14	A	3
15	15	A	3
15	16	C	1
15	17	A	3
15	18	A	3
15	19	A	2a
15	20	B	3
15	21	A	1c
15	22	C	1
15	23	B	1c
15	24	D	1
15	25	A	3
15	26	A	2a
15	27	A	1a
15	28	A	2a
15	29	B	2a
15	30	A	1c
15	31	A	2c
15	32	A	1c
15	33	D	1
16	1	A	1c

Reader	Tune No	Code	Subdivision
16	2	A	3
16	3	C	1
16	4	A	2a
16	5	A	2a
16	6	A	1a
16	7	A	2a
16	8	A	2a
16	9	A	2c
16	10	A	1c
16	11	C	2
16	12	A	2a
16	13	A	1c
16	14	A	3
16	15	A	1c
16	16	A	2b
16	17	A	2c
16	18	A	3
16	19	A	1c
16	20	A	1a
16	21	A	2b
16	22	A	1c
16	23	A	1a
16	24	A	1c
16	25	B	1a
16	26	A	2b
16	27	A	1a
16	28	A	2a
16	29	A	1a
16	30	A	1a
16	31	A	3
16	32	A	3
17	1	B	1c
17	2	B	3
17	3	A	2a
17	4	A	2a
17	5	B	4
17	6	C	1
17	7	B	2a
17	8	B	2a
17	9	B	2a
17	10	A	2a
17	11	A	3
17	12	D	2b
17	13	B	4
17	14	A	3
17	15	A	1c
17	16	A	2b
17	17	A	2b
17	18	B	3
17	19	A	3
17	20	A	1c
17	21	A	2a
17	22	A	1c
17	23	A	2a
17	24	A	1c
17	25	A	2a
17	26	A	3
17	27	A	2a
17	28	A	2a
17	29	A	2a
17	30	A	1a
17	31	A	2a

Reader	Tune No	Code	Subdivision
17	32	A	2a
18	1	A	1c
18	2	F	
18	3	A	2a
18	4	A	2a
18	5	A	1a
18	6	A	1a
18	7	A	3
18	8	A	2c
18	9	A	2c
18	10	A	1c
18	11	A	2b
18	12	A	4c
18	13	A	3
18	14	A	1c
18	15	A	1c
18	16	A	3
18	17	A	1c
18	18	A	1c
18	19	A	1c
18	20	A	1c
18	21	A	1c
18	22	A	1c
18	23	A	1a
18	24	A	3
18	25	D	2b
18	26	A	1c
18	27	A	1c
18	28	A	1c
18	29	A	2b
18	30	A	3
18	31	A	3
19	1	A	1c
19	2	F	
19	3	A	2a
19	4	A	2a
19	5	B	1c
19	6	A	1c
19	7	A	1c
19	8	A	3
19	9	D	2a
19	10	A	1c
19	11	A	1c
19	12	A	1c
19	13	A	3
19	14	A	2a
19	15	A	3
19	16	A	1c
19	17	A	1c
19	18	D	2b
19	19	A	1c
19	20	A	1a
19	21	A	1c
19	22	A	2a
19	23	A	2a
19	24	A	1c
19	25	A	2b
19	26	A	1c

Tune type	Initial rise	Fall	Final ris
A	No	Yes	No
B	No	Yes	Yes
C	No	No	Yes
D	Yes	Yes	No
E	Yes	Yes	Yes
F	No	No	No