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Nigel Fabb and Morris Halle

Introductory Remarks

In this paper we present a new theory of metrical verse, and apply it to several poems by Christina Rossetti. Our theory is in the tradition of those approaches to meter, often drawn from linguistics, which treat the meter of a line as distinct from—and sometimes very different from—the performed rhythm of the line¹. We take issue with the theoretical position which permits metrical form to mimic the performed rhythms of the line; Fussell (1979) is a widely read representative of this approach². We present a preliminary account of the problem of meter vs. rhythm in this paper. The account is based on a deterministic procedure for working out the metrical form of a text. At the heart of the procedure is a special way of counting the number of syllables in the line. We show how as a by-product of this counting procedure a formal structure emerges. This structure, which we call the metrical grid, is the meter of the

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line, and different aspects of the grid explain many important formal properties of the line. Though not widely familiar, the formalism presented below for scanning lines of metrical verse can readily be taught to students even in primary and secondary schools. We have the impression that the acquisition of this skill enhances students' responses to poetry.

The fundamental disagreement between theories of meter concerns the difference or similarity between, on the one hand, the meter of a line—iambic pentameter, dactylic hexameter, etc.—and, on the other hand, the rhythm that is directly detectable in a reading of the line. This is the distinction between what Prins calls “meter” and “voice” (2000, 90). While lines in iambic pentameter are regulated by the meter, they vary from each other in the number of syllables, and in the exact pattern of stressed and unstressed syllables which constitutes the rhythm of the line. Two lines may be in exactly the same meter but have different rhythms. We cite two such lines in (1) from Rossetti's “Up-Hill”. We have written *x* under a syllable which is weakly stressed or unstressed and a slash under a syllable which is strongly stressed; our decision is based on one way of reading the line aloud, though other rhythms are possible.

- (1)
- | | | | | | | | |
|------|-----|------|----------|--------|-----|------|------|
| Does | the | road | wind | uphill | all | the | way? |
| x | x | / | / | / | x | / | x |
| May | not | the | darkness | hide | it | from | my |
| x | / | x | / | x | / | x | / |

Metrically both lines are lawful instances of the English iambic pentameter, but rhythmically only in reading the second of these lines do we produce the *dudum dudum* rhythm that is traditionally associated with an iambic meter. In the approach to metricality which sees rhythm as the expression of meter, these lines are well formed because these specific rhythms are permitted variations of iambic pentameter. In the approach to rhythm espoused in this paper, many aspects of these rhythms are simply irrelevant to the metricality of the lines; as we show below the lines are metrical because their numbers of syllables (nine and ten) can be counted by the metrical rules for iambic pentameter, and the polysyllables *uphill* and *darkness* are placed as they are in the line. We see other aspects of the rhythm as unconnected to the meter of the line. A distinction thus emerges between the rhythm and the meter, and in this paper we argue that this is a source of aesthetic experience of metrical verse, and is exploited by Rossetti in her poems.

As an example of a traditional analysis (in which meter is molded to rhythm) consider the scansion which would be applied to this line by Fussell (1979). His approach assumes a particular reading or performance of the line

for example the one shown in (2)) and assigns foot labels to different sub-sequences of stressed and unstressed syllables.

(2)

Does	the	road	wind	uphill	all	the way?		
x	x	/	/	/	x	/	x	/
	anapest		spondee		iamb		iamb	

May	not	the	darkness	hide	it	from	my face?			
x	/	x	/	x	/	x	/	x	/	
	iamb		iamb		iamb		iamb		iamb	

The second of the two lines is a normative iambic pentameter line, with five iambic feet. In the first of the two lines, an initial anapaest is followed by a spondee and two iambs. Fussell permits this as a variation of iambic pentameter by invoking processes of foot substitution and foot deletion, where feet are treated as “building blocks” of the scansion, which can be moved and substituted. In this kind of theory each meter must thus be supplemented with a series of “foot substitution” statements which describe the conditions under which one type of foot is allowed to take the place of one of the basic feet that make up the canonical pattern of the line. For example if the first line is assumed to be basically iambic then it must also be assumed that the initial sequence of three iambs is replaced by an anapaest followed by a spondee. This implies that in this poem, lines vary in the number of feet. Since there are few restrictions on these variations, this approach contributes little to a deeper understanding of what is involved in constructing a line of verse in a particular meter.

Unlike most other theories of meter, our theory is a generative theory: it generates the metrical grid and does not simply classify the raw data. We call our theory Bracketed Grid Theory³ (Fabb 2001, Fabb 2002a, b, Fabb and Halle in preparation). We present in section 2 a scansion of a Rossetti poem in a strict meter (iambic pentameter). In section 3 we examine a poem of hers in loose meter (characteristic of folk verse). These two scansions lay the ground for our demonstration in section 4 that the poem “Up-hill” is in a strict meter that mimics a loose meter⁴. George Saintsbury, after demonstrating the “infinite variety” of Rossetti’s metrical practice, wrote that “late nineteenth century poetry has hardly, on the formal side, a more characteristic and gifted exponent than Christina Rossetti. Read her, and read all of her” (1910, 359). In contrast, more recent critics who have attended to Rossetti’s form (Curran 1994, McGann 1980, Marshall 1994) hold back from metrical analysis. Harrison (1988, 41–51) discusses meter, but does so discursively

rather than by presenting scansions. Our article is a contribution to a special focus section of this journal on “Conjoining Literature and Linguistics,” which has as one of its concerns the ways in which close linguistic readings can aid in literary analysis. One of our goals in this paper is to promote a greater role for metrical scansion in literary analysis. We believe that metrical scansion of the kind presented below offers new insights into the complexity of composition, in a way that connects questions of cognition and cognitive mechanisms with aesthetic practice and aesthetic experience.

Metrical Form: Iambic Pentameter

Meter is a way of organizing sequences of words which exploits mental computations of a special kind. Computations of the same or a very similar kind are found in phonology, and perhaps in other expressions of human patterned behavior such as dance and music. In all cases, a periodic pattern emerges as the result of performing a set of computations based on repeating structure-building rules. This periodic pattern is the meter of the line. It is related in specific ways to overt periodicities directly detectable in performances (readings) of the line. These two kinds of periodicity however are not identical, and the gap between the underlying or covert periodicity and the expressed or overt forms of the verse is a source of complexity.

Consider for example Christina Rossetti’s sonnet given in (3).⁵

(3)

Thinking of you, and all that was, and all
 That might have been and now can never be,
 I feel your honoured excellence, and see
 Myself unworthy of the happier call: 4
 For woe is me who walk so apt to fall,
 So apt to shrink afraid, so apt to flee,
 Apt to lie down and die (ah woe is me!)
 Faithless and hopeless turning to the wall. 8
 And yet not hopeless quite nor faithless quite,
 Because not loveless; love may toil all night,
 But take at morning; wrestle till the break
 Of day, but then wield power with God and man: 12
 So take I heart of grace as best I can,
 Ready to spend and be spent for your sake.
 (Rossetti 2001, 298 [published 1881])

These lines have in common the fact that they are all of the same length. In order to determine line length we must, naturally, define the unit we use to measure line length, and we must explain how these units are counted.

A scansion, i.e., the assignment of metrical structure to a line, must begin with information about what elements of the line are counted for the purposes of meter, for poetic traditions may differ on this point. In our account this initial step in the procedure is implemented by writing below the verse-line an asterisk for each countable element, which in this case means for each syllable. (We say that each syllable projects an asterisk on gridline 0.) We illustrate this in (4) with the fifth line of the Rossetti sonnet.

(4)
 For woe is me who walk so apt to fall
 * * * * * * * * * * gridline 0

Here, as in all English meters, each syllable constitutes a single countable unit. We call the sequence of asterisks gridline 0.

Having established the units to be counted, our next step is to count them. A central tenet of our theory is that the only counting procedure available to poets of all languages and traditions involves counting by pairs or by triplets⁶. We refer to these pairs/triplets as *feet*. Thus a line composed of 10 syllables may be analyzed into five bisyllabic feet, as shown in (5) where each syllable is represented by an asterisk, and the parentheses serve as foot dividers, given the definition of foot in (6).

(5)
 For woe is me who walk so apt to fall
 * *) * *) * *) * *) * *) gridline 0

(6) *Definition of foot.*

A foot is a sequence of one or more asterisks preceded by a left parenthesis or followed by a right parenthesis.

In our theory the counting by pairs or triplets is implemented by inserting parentheses (foot dividers) into a sequence of asterisks (which represent the units to be counted). The dividers are of two kinds: (i) dividers represented by left parentheses that foot the asterisks on their right, and (ii) dividers represented by right parentheses as in (5) that foot the asterisks on their left. The parentheses—dividers—are inserted by a rule of Iterative Footing, which is the main engine of verse scansion. In the iambic pentameter line under discussion here the syllable sequence is analyzed into pairs

(binary feet) by the Iterative Footing rule written out in full in (7) which inserts right parentheses among the asterisks of gridline 0.

- (7) Beginning at the right edge of gridline 0,
 - (i) insert a right parenthesis to the right of an asterisk,
 - (ii) skip one asterisk,
 - (iii) repeat the insertion and skip steps until the procedure runs out of asterisks.

The rules stated do not allow us to determine how many syllables there are in the line⁷; the rules only allow us to reduce the ten syllables composing the line into five bi-syllabic feet, as in (5). We can overcome this limitation by repeating the counting procedure, using as units to be counted not the syllables but the feet. In order to count the feet, however, we need some way of making them visible to the procedure. We do this by positing that the terminal unit of each foot, called the *head*, projects an asterisk on gridline 1 which appears below gridline 0 in (9).

- (9)

| | | | | | | | | | | |
|-----|-----|----|----|-----|------|----|-----|----|------|-----------------|
| For | woe | is | me | who | walk | so | apt | to | fall | |
| * | *) | * | *) | * | *) | * | *) | * | *) | gridline 0 feet |
| | * | | * | | * | | * | | * | gridline 1 |

In Rossetti's iambic pentameter line under discussion the head of the gridline 0 foot is its right-most unit (asterisk) and, as shown in (9) it is this unit that is projected onto gridline 1. We add (10) to the rule in (7) in order to indicate the location of the head, the asterisk which projects to the next gridline.

- (10)
 - The rightmost asterisk in each group projects to the next gridline

Our next step is to count the asterisks on gridline 1, and, as before, we do this by grouping the asterisks on this new gridline. In studies of classical metrics, gridline 1 groupings are called *metra* (West 1982, 6), and we borrow this terminology here. The rule for counting asterisks at the metron level is given in (11) and its effects can be seen in (12).

(15)

For woe is me who walk so apt to fall, *line 5*
 x / x / x / x / x /
 * *) * *) * *) * *) * *) gridline 0
 * * * * * * * * gridline 1
 * * * * * * * * gridline 2
 * * * * * * * * gridline 3

Apt to lie down and die (ah woe is me!) *line 7*
 / x x / x / / / x /
 * *) * *) * *) * *) * *) gridline 0
 * * * * * * * * gridline 1
 * * * * * * * * gridline 2
 * * * * * * * * gridline 3

Faithless and hopeless turning to the wall. *line 8*
 / x x / x / x x x /
 * *) * *) * *) * *) * *) gridline 0
 * * * * * * * * gridline 1
 * * * * * * * * gridline 2
 * * * * * * * * gridline 3

Ready to spend and be spent for your sake. *line 14*
 / x x / x x / x x /
 * *) * *) * *) * *) * *) gridline 0
 * * * * * * * * gridline 1
 * * * * * * * * gridline 2
 * * * * * * * * gridline 3

In each of these lines, the grid ensures that there are ten syllables; the meter counts the syllables by building a periodic grid structure. How does that periodic structure relate to the actual rhythm of the line? In some lines (such as line 5) the rhythm mimics the periodic structure at gridlines 0 and 1 exactly, but in others it does not; in lines 7 and 8 the rhythm is aperiodic, while in line 14 the rhythm follows a ternary periodic pattern which is different from the binary periodic pattern of the meter. Following Kiparsky (1977), we relate the rhythm of the line and the structure of the grid by the condition in (17) which depends on the definition in (16).

(16) *Definition of maximum in English strict meters*

The syllable

- (i) which carries primary stress in a polysyllabic word, and
- (ii) which is preceded and followed in the same line by a syllable that does not carry lexical stress, is a MAXIMUM.

(17) *Condition on maxima in English strict meters*

MAXIMA must project to gridline 1.

Thus it is not stressed syllables in general which are controlled relative to the periodic structure of the grid, but maxima; i.e., a subset of the stressed syllables. Of the lines quoted in (14), only line 8 has polysyllables, and only the second and third of these are subject to the condition. (The first, “Faithless” is not subject to the condition because its stressed syllable is not a maximum, not being preceded by another syllable in the same line.)

It is the fact that rhythm and meter are related only by (16) and (17) which is the source of the freedom in the iambic pentameter line. Many kinds of stressed syllable are free to match any position. The fact that nevertheless stressed syllables often do match gridline 1 head positions suggests that there are other principles in operation which shape the rhythm of the line on top of the metrical requirements. Fabb (2002b) proposes a pragmatics-based account of these other principles, involving the Relevance-theoretic notion of interpretive resemblance.

It is worth halting now to restate our fundamental point. Meter and rhythm are distinct from one another. The rhythm of the line and the metrical scansion of the line are related in various ways (e.g., via condition (17)) but are essentially different, even though they are both based on the underlying accentual structure of the word sequence. In metrical analyses such as Fussell (1979) as well as newer theories (e.g., Attridge 1982) the metrical form is molded to the rhythmic form, rather than being distinct from it. As noted before, one characteristic way of molding meter to rhythm is to treat the line as built from a sequence of prefabricated foot types. We indicate such an analysis for line 8 (vertical lines indicate foot boundaries).

(18)

| | | | | | | |
|-----------|------|----------|---------|------|-----|-------|
| Faithless | and | hopeless | turning | to | the | wall. |
| / x | x / | x / | x x | x / | | |
| trochee | iamb | iamb | pyrrhic | iamb | | |

A foot-substitution approach takes the iambic pentameter to be normatively five iambs in sequence. Deviations from this ideal pattern are accounted for by substituting other feet for one or more of the line's five iambs. Thus Fussell says "by convention, the feet are conceived of as roughly of the same kind, although variations, produced by the 'substitution' of different feet, are not only permissible but desirable so long as these substitutions do not efface for long the repeated pattern of the prevailing or dominant kind of foot" (1979, 19). Following this approach, in (18) the first foot is replaced by a trochee and the fourth by a pyrrhic. The metrical-rhythmic complexity of the line might in principle be calculated serially by giving each replacement a "complexity rating" and adding these up to get the complexity of the line. In our view, such an approach lacks any explanatory power; it assumes that our experience of the metrical complexity of the poem is a quantitative experience fragmented across the parts of the line. For us, the experience of complexity arises when there is a mismatch between two distinct mental representations of the line, one of which is a phonological representation of the performed rhythm of the line and the other is the metrical grid of the line.

Metrical Form: Loose Iambic Dimeter

Christina Rossetti experimented with many meters, including the meters found in "folk" poetry such as ballads or nursery rhymes, but also found in art poetry, particularly from Romanticism onwards. These are composed in what we call "loose iambic meters" (Halle and Keyser 1999, using Robert Frost's term). The meters are sometimes referred to by other names such as "Christabel meter" (after Coleridge's poem); in Russian these meters are called *dol'nik*. Ruskin, writing to Christina's brother Gabriel about her use of loose meter in "Goblin Market," complained "Irregular measure (introduced to my great regret in its chief wilfulness by Coleridge) is the calamity of modern poetry." (Harrison 1988, 40). These meters are characterized by lines which have the same numbers of feet but vary greatly in their numbers of syllables. The fact that in both strict and loose meters lines are measured by counting feet implies mandatory foot construction in both kinds of meter. A typical example is "Spring Quiet," of which we quote the first stanza in (19); the whole poem is quoted with a scansion as (29).

(19) *Spring Quiet*

Gone were but the Winter,
 Come were but the Spring,
 I would go to a covert
 Where the birds sing;
 (Rossetti 2001, 568. Composed 1847 published 1865)

The poem as a whole presents two apparent “irregularities.” There are between four and seven syllables in the line, and the lines vary in having one, two or three stressed syllables. Hence the poem seems simply to be metrically “free.” Any metrical account of these lines which seeks to determine metrical form solely by looking at these surface characteristics of the text will only mimic the text’s rhythm in an unexplanatory way. If for example we tried to analyze the lines in terms of foot structure following the lead of Fussell (1979), the first stanza might be analyzed as in (20) (other divisions into feet are possible for these rhythms).

(20)

| | | | | | |
|----------|-------|----------|-------|---------------|----------------|
| Gone | were | but | the | Winter, | |
| / | x | / | x | / | |
| trochee | | trochee | | trochee | |
| | | | | | |
| Come | were | but | the | Spring, | |
| / | x | / | x | / | |
| trochee | | trochee | | short trochee | |
| | | | | | |
| I | would | go | to | a | covert |
| x | x | / | x | x | / |
| anapaest | | anapaest | | x | extra syllable |
| | | | | | |
| Where | the | birds | sing; | | |
| x | x | / | / | | |
| pyrrhic | | spondee | | | |

An alternative mode of analysis which looked just at stressed syllables on the assumption that only these are counted (an assumption sometimes made for folk verse) would probably say that the first two lines are trimeter and the second two lines dimeter, and make no comment on the presence of unstressed syllables.

Both of these traditional kinds of analysis face two problems. First, they make the poem seem much more irregular than in fact it is. Second, by rep-

resenting this irregularity directly in the scansion of the poem, they eliminate any possibility of describing exactly what makes this poem regular, yet metricaly complex.

In our theory, loose iambic meter arises by application of the same metrical theory which explains strict iambic meter. That is, loose iambic meter involves rules of Iterative Footing which build bracketed grids from a line of verse. Where loose iambic meters are different is in the role played by maxima. In strict meters maxima must occupy certain positions in the grid, whereas in loose meters, maxima determine grid construction directly. Formally this difference is implemented by a change in the definition of maximum (see (21)) and by the addition of rule (22) which applies before other parentheses are inserted.

(21) *Definition of maximum in English loose meters*¹²

The syllable carrying primary stress in a polysyllabic word is a MAXIMUM.

(22) Insert a right parenthesis to the right of a gridline 0 asterisk projecting from a maximum.

Unlike (7) the Iterative Footing rule for “loose” iambs (23) begins with a skip step and inserts a left parenthesis rather than a right one:

(23)

Beginning at the right edge of gridline 0

(i) skip one asterisk,

(ii) insert a left parenthesis to the left of an asterisk.

(iii) repeat the skip and insertion steps until the procedure runs out of asterisks.

In (24) we illustrate the application of (23) with the second and fourth lines of the poem; in these two lines there are no maxima and rule (22) does not apply:

(24)

Come were but the Spring,

* (* * (* * gridline 0

Where the birds sing;

(* * (* * gridline 0

The effects on lines with maxima are more pronounced, because (22) affects significantly the way Iterative Footing operates. In particular, when Iterative Footing encounters an asterisk that has already been parenthesized, it does not parenthesize the asterisk yet again, but instead moves on to the skip step, as explained below. To see this, consider the line quoted in (25).

(25)
 Arching high over
 * * * * * gridline 0

By definition (21) the first syllable in each of “arching” and “over” are maxima, and by rule (22) this leads to the insertion of right parentheses into the sequence.

(26)
 Arching high over
 *) * * *) * gridline 0

Next (left) parentheses are inserted into the line by the iterative rule in (23). The procedure of iterative footing is different here in several respects from that of the iambic pentameter discussed in section 2 (compare rule (10)). In particular, when the subrule that inserts a parenthesis encounters an asterisk that is already parenthesized, it does not parenthesize this asterisk for a second time. Instead the procedure reverts to the skip step with which it began. This is illustrated in (27).

(27) Arching high over
 *) * * *) *
 ^ skip [nb. rule (23) says skip comes first]
 *) * * *) *
 ^ insertion fails (already parenthesized)
 *) * * *) *
 ^ skip
 *) * (* *) *
 ^ insert parenthesis
 *) * (* *) *
 ^ skip
 *) * (* *) *

^ insertion fails (already parenthesized)
 *) * (* *) *
 ^ skip
 *) * (* *) *
 * * project heads right

(28)

Arching high over
 *) * (* *) * gridline 0
 * * gridline 1

In this way, a two-foot (dimeter) line is constructed as in (28). Note that the second syllable in “Arching” does not fall within a foot because its asterisk is neither preceded by a left parenthesis nor followed by a right parenthesis. The meter thus permits lines which have an identical number of feet, although the number of syllables per line varies between four and six.

In (29) we have scanned the whole poem. Every line of the poem has exactly two feet. The poem thus is metrically uniform even though on the surface it shows great variety.

(29) *Spring Quiet*

Gone were but the Winter,
 * (* * (* *) *
 * *

Come were but the Spring,
 * (* * (* *
 * *

I would go to a covert
 * (* * (* *) *
 * *

Where the birds sing;
 (* * (* *
 * *

Where in the whitethorn
 (* * (* *) *
 * *

Singeth a thrush,
 *) * (* *
 * *

And a robin sings

* (* *) (* *
* *

In the holly-bush.

* (* *) (* *
* *

Full of fresh scents

(* * (* *
* *

Are the budding boughs

* (* *) (* *
* *

Arching high over

*) * (* *) *
* *

A cool green house;

(* * (* *
* *

Full of sweet scents,

(* * (* *
* *

And whispering air

(* *) * (* *
* *

Which sayeth softly:

(* *) (* *) *
* *

'We spread no snare;

(* * (* *
* *

'Here dwell in safety,

(* * (* *) *
* *

Here dwell alone,

(* * (* *)
* *

With a clear stream

(* * (* *
 * *

And a mossy stone.

* (* *) (* *
 * *

'Here the sun shineth

(* * (* *) *
 * *

Most shadily;

(* *) (* *
 * *

Here is heard an echo

* (* * (* *) *
 * *

Of the far sea,

(* * (* *
 * *

Though far off it be.'

* (* * (* *
 * *

Like in the sonnet in (3) most lines of this poem deviate markedly from the dudumdudum rhythm that is the simplest instantiation of an iambic dimeter. Thus the line "Gone were but the Winter" could be given three stressed syllables in performance, and the line "Most shadily" could be given one stressed syllable in performance, but in both cases the lines are metrical-ly dimeter (two feet at gridline 0). Furthermore, while there is often a match between syllables carrying stress and heads of feet, this is not always the case; in the penultimate line "Of the far sea," the first foot does not contain even one stressed syllable and the second foot contains two. The directness of the relation between the meter of a line and aspects of its performance thus reflect the complexity of a line.

The metrical analysis also provides a clearer sense of some of the other complexities. The stanzas are written as quatrains, but in terms of their meanings and syntactic structure and rhyme scheme they could in some ways be better analyzed as couplets. What works against this is precisely the metrical form. For example if the first two lines were written together they would be analyzed as having five (not four) feet because the final unfooted syllable of

A roof for when the slow, dark hours begin.

* *) * *) * *) * *) * *) * *)
* * * * *

May not the darkness hide it from my face?

* *) * *) * *) * *) * *) * *)
* * * * *

You cannot miss that inn.

* *) * *) * *)
* * *

Shall I meet other wayfarers at night?

* *) * *) * *) * *) * *) * *)
* * * * *

Those who have gone before.

* *) * *) * *)
* * *

Then must I knock, or call when just in sight?

* *) * *) * *) * *) * *) * *)
* * * * *

They will not keep you waiting at that door.

* *) * *) * *) * *) * *) * *)
* * * * *

Shall I find comfort, travel-sore and weak?

* *) * *) * *) * *) * *) * *)
* * * * *

Of labour you shall find the sum.

* *) * *) * *) * *) * *)
* * * *

Will there be beds for me and all who seek?

* *) * *) * *) * *) * *) * *)
* * * * *

Yea, beds for all who come.

* *) * *) * *)
* * *

(Rossetti 2001, 59. Composed 1858 published 1862)

This poem illustrates two ways in which line length is varied in a strict meter. The first variation is seen in the first line, which has nine syllables. This is still a five foot line, even though the leftmost foot contains only one asterisk; this leftmost unit is an asterisk ending in a right parenthesis and hence

Will the day's journey take the whole long day?

| | | | | | | | | | | |
|---|----|---|----|---|----|---|----|---|----|------------|
| x | x | / | / | x | x | x | / | x | / | |
| * | *) | * | *) | * | *) | * | *) | * | *) | gridline 0 |
| | * | | *) | | * | | * | | *) | gridline 1 |
| | | | * | | | | | | *) | gridline 2 |
| | | | * | | | | | | | gridline 3 |

From morn to night, my friend.

| | | | | | | |
|---|----|---|----|---|----|------------|
| x | / | x | / | x | / | |
| * | *) | * | *) | * | *) | gridline 0 |
| | *) | * | | * | *) | gridline 1 |
| | * | | | * | *) | gridline 2 |
| | | | | * | | gridline 3 |

We are tempted into such a “ballad rhythm” performance by the first line. This line can be scanned metrically as a pentameter line with an initial short foot (and in fact must be so scanned). Nevertheless it feels rhythmically like a tetrameter line with two unstressed syllables at the beginning. The rest of the poem follows the same pattern, with a mismatch between a “ballad-like” 4+3 rhythmic form, and a pentameter-based metrical form (with trimeter variants). Here again we see that complexity arises in the mismatch between two different representations of the same line. This kind of account is impossible in a “meter is rhythm” account such as that of Fussell (1979).

Conclusion

There are two ways of using metrical analysis in the literary criticism of verse. In one approach, form is treated as the servant of meaning, and a match is claimed between the rhythmic characteristics of the line and its meaning or other expressive characteristics. This would be a “stylistic” analysis of the poem, and our contribution to this use for metrical analysis is to provide an additional perspective on the relation between form and meaning. In addition to matching the performed rhythm to the meaning, we also offer a description of the poem in which the performed rhythm is in a complex relation with the metrical form of the poem; this complexity might itself be understood as having some relation to the meaning of the poem. Thus the metrical strictness of “Up-hill,” metrically in iambic pentameter/trimeter, is in conflict with the performed looseness of the poem which has the feel of a ballad’s rhythm; perhaps this conflict expresses the conflicts represented the poem itself. The second way of using metrical analysis is of more interest to us, and fits with current work in “cognitive stylistics” (or “cognitive poetics” as in Stockwell 2002, Hogan 2003). We think that *form* is of interest in its own

right, and that the aesthetic experience of a metrical poem is in part an experience of a complex cognitive activity which builds the grid for the line, and relates that highly regular and periodic grid to a relatively irregular and aperiodic performed rhythm.

We have argued that metrical form and perceived rhythm are distinct. Most contemporary literary criticism assumes something different. Whether they follow Attridge (1982), who models the performed rhythm but dispenses with the foot, or they follow Fussell (1979), for whom the line is made of feet which are substitutable units, in either case the assumption is that the perceived rhythm *is* the metrical form of the verseline. In this paper we have shown that such an approach is impoverished in its capacity to explain various kinds of metrical complexity. We have demonstrated that it is possible to build scansion by simple computational procedures which begin with the verseline and construct an abstract periodic grid. The successful construction of the grid implies that the line is metrical, and explains the underlying regularities of metrical verse. However, while the grid is built from the phonology of the line, it is not fully determined by the phonology of the line, and hence gaps emerge between perceived rhythm and poetic meter. The difference between the metrical representation and the perceived rhythm can be precisely described, and—we suggest—can be understood as a kind of complexity. Since both the metrical representation and the perceived rhythm are (or correlate with) distinct mental representations, this suggests that the complex mismatch between representations constitutes an experiential effect. We propose that this is the basis of the aesthetic experience of metricality in verse.

Notes

¹ Theoretical approaches which focus on the difference between meter and rhythm include Chatman (1965), Fowler (1966), Halle and Keyser (1966, 1971), Kiparsky (1977), Hanson and Kiparsky (1996); these approaches differ widely from one another and also from the approach we present in this paper.

² Among the very different theoretical approaches which take this position, we include Fussell (1979), Attridge (1982), and recent Optimality-theoretic approaches such as Hayes and MacEachern (1998) or Golston (1998). For a full overview of theoretical accounts of meter, see Brogan (1981, 1999), Attridge (2003), and Fabb (2003) further debate the issues raised here.

³ In *A Treatise on Meter*, we discuss the direct relationship between the formalism of our theory and that of the linguistic theory of accent and stress of Idsardi (1992). We utilize our theory to characterize all meters encountered in English metrical verse. We then show that the same basic approach can explain the meters of the various metrical traditions of the world including major traditions such as those of Arabic, Sanskrit, Greek, French, as well as less widely known traditions such as those of Somali, Swahili, Latvian, Dyrbal, Welsh and Irish.

⁴ For relevant discussion of mimicry in Rossetti's work see Lysack (1998).

⁵ We have extracted here the ninth part of *Monna Innominata*, her "sonnet of sonnets" (removing the accompanying quotations from Dante and Petrarch).

⁶ If correct, this limitation on counting reflects a striking limitation on human computational capacities, which is likely to be elucidated as our understanding of human neurology and psychology advances.

⁷ The ten asterisks of (4) would have been reduced to four feet, as shown below, if instead of skipping a single asterisk, the rule of iterative footing had skipped two asterisks:

For woe is me who walk so apt to fall
 *) * * *) * * *) * * *)

⁸ Here we use the term "colon" in its sense of being a unit larger than a metron and smaller than a line.

⁹ The rule (11) can scan lines of 12 syllables in length if the final foot constructed at line 1 is permitted to be full (ternary rather than binary), and this is exactly how the French alexandrin or an English iambic hexameter line is scanned.

¹⁰ We demonstrate this for all the world's meters in our *A Treatise on Meter*.

¹¹ Irish, Welsh, French and Swahili all have meters with this property; for details see *A Treatise on Meter*.

¹² The definition of maximum given holds for Rossetti's lines in this poem and differs from that in (16). Other loose iambic texts utilize somewhat different definitions of maximum for their 'loose' meters. For more discussion see *A Treatise on Meter*.

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