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Richard D. Cureton

Telling Time: Toward a Temporal Poetics

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Richard D. Cureton

Richard D. Cureton is an associate professor in the Department of English Language and Literature at the University of Michigan at Ann Arbor, where he teaches courses in English language, poetics, and poetry. He has published one book (*Rhythmic Phrasing in English Verse*) and many articles on these issues. Currently, he is editing the language and literature entries for the Oxford International Encyclopedia of Linguistics and a special poetics issue for the *Journal of English Linguistics*. His most recent essay is "Jakobson Revisited: Poetics, Subjectivity, and Temporality," *Journal of English Linguistics* 28:4 (2000), 354-92.!

Author's address:  
University of Michigan  
Department of English  
Language and Literature  
3187 Angell Hall  
Ann Arbor MI 48109-1003, USA

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Campusvej 55, DK-5230 Odense M  
Fax 65 93 04 90, Tel. 66 15 86 00  
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## Telling Time: Toward a Temporal Poetics

Richard D. Cureton

### 1 Introduction

The unusual difficulty in understanding poetry is that this task depends crucially on understanding a number of other matters that we *also* understand poorly—most notably, rhythm, rhetoric, and linguistic form. While novels tell stories and plays mime actions, poems render human sensibility by creating a coherent universe of rhetorically elaborated, rhythmically organized, linguistic forms. This intense use of formal texturing then strongly affects the selection and arrangement of linguistic meanings, a result that distances poetry even further from the other literary genres.

Within the professional study of language, these formal texturings that are characteristic of poetry have been given little place. In linguistics, rhythm and rhetoric are often overlooked entirely, while linguistic form is usually taken as a theoretical primitive rather than as something to be explained. Linguists concern themselves primarily with what linguistic forms appear in languages and how those forms convey meaning and facilitate everyday communication, issues that, in literary terms, are more relevant to prose and drama. Linguists seldom reflect on what aspects of human sensibility might be embodied in linguistic forms (and things like rhythmic and rhetorical gestures), in and of themselves. In our everyday lives, we usually use linguistic forms to convey meanings and other sorts of pragmatic implications, not the other way around.

Among these three types of formal texturing in poetry (i.e., rhythm, rhetoric, and linguistic form), the most crucial for our understanding of poetry is rhythm. Poetry is often claimed to be a rhythmic language, and there is much that supports this claim. The most characteristic feature of poetry, its arrangement in lines, is primarily rhythmic in source and effect. Conventional poetic forms (such as the sonnet) are primarily rhythmic in their definitional features, as are subparts of these forms (e.g., stanzas). Many of the most prominent patternings of linguistic forms in poems (e.g., sound

patterings and syntactic patterings) are both closely correlated with rhythm and significantly rhythmic is themselves. Even the odd organization of meaning in poetry--its repeating refrains, tight parallels, predictable climaxes, numerical subdivisionings of descriptions and arguments, and so forth--can be strongly motivated in rhythmic terms. More so than patterns of linguistic forms or collections of rhetorical gestures, rhythmic ordering usually pervades a poem, bending all other forms and meanings to its structure and significance. In fact, it is reasonable to claim that rhythm is not just a prominent feature of poetry, but its foundational, controlling determinant.

Attractive as it might be, this claim runs into many logical and practical difficulties, however, and these difficulties have prevented anyone from seriously developing this insight into a full poetics. The most prominent difficulty is our scant knowledge of poetic rhythm. Critics of poetry have doggedly clung to various ancient modes of rhythmic representation, scansional modes that fail to capture the full rhythmic complexity of poems. Worse, these ancient scansional modes are based upon a number of large misconceptions about rhythmic organization more generally, a fact that makes them particularly ill-suited to underpin a full poetics, which must use such general rhythmic principles to account for much else besides. As a result, before we can even begin, any attempt to demonstrate the rhythmic basis of poetry must both dispel these misconceptions and develop new rhythmic principles and modes of representation that are more adequate to the task.

Second, a theory of poetry as rhythmic language would have to use these new rhythmic principles to motivate the *other* major types of formal texturing in poetry--most prominently, rhetoric and linguistic form--despite their striking differences. Things like nouns and metaphors are very different both from each other and from things like metrical beats. But a theory that assumes that rhythm is *the* controlling influence in poetic expression would have to demonstrate how things like metrical beats can influence the choice of a noun (vs., say a verb) or a metaphor (vs., say, a metonymy). Rhetoric and linguistic form are also complex formal systems in themselves, and therefore to be workable, this theory would have to show how such complexity can be coherently responsive to rhythmic

influences. A theory of poetry as rhythmic language would have to develop a rhythmically-based theory of poetic *style*.

Third, a theory of poetry as rhythmic language would have to bridge the even larger gap between poetic rhythm and poetic meaning. Over the centuries, critics have demonstrated how rhythmic gestures in poems can support poetic meanings in certain local, sporadic ways. A theory of poetry as rhythmic language would have to reverse this line of influence and do better. That is, it would have demonstrate how rhythmic organization can have a pervasive influence on choices of meaning in a poem--choices of theme, argument, plot, character, setting, point-of-view, tone, imagery, diction, and so forth. That is, it would have to demonstrate how a coherent *hermeneutics* of poetry can be developed in rhythmic terms.

Fourth, a theory of poetry as rhythmic language would have to relate this rhythmic hermeneutics to cultural and historical context. Such a theory would have to demonstrate how poems, being essentially rhythmic, arise from the deep-seated rhythms in cultural institutions and ideologies and how poems of different historical periods shift their rhythmic textures in anticipation of or response to shifts in these contextual rhythms. That is, such a theory would have to develop a *politics* of rhythmic form.

Finally, to be completely satisfying, a theory of poetry as rhythmic language would have to develop a *philosophy* that can articulate the role of rhythmic organization in human nature and sensibility more generally--a rhythmic biology, psychology, epistemology, and ontology. This philosophy would join hands with philosophical speculation about the other rhythmic arts, most prominently music and dance. It seems to be a historical fact that all poetry arises out of a more synthetic combination of the temporal arts in various cultural rituals. At early cultural moments, poetry is often performed with musical and gestural accompaniments; and therefore it seems that the most basic poetic genre is song. What we understand as lyric, narrative, and dramatic poetry seem to develop later out of these more song-like origins. A theory of poetry as rhythmic language would have to provide a rhythmic *metaphysics* that can motivate why this is so.

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Over the last fifteen years or so, I have been trying to develop a poetics of just this sort. The purpose of this essay is to outline this poetics and demonstrate what it can accomplish.

## 2 Rhythm

While much still remains to be done in this area, I accomplished a large part of the first task—a critique of traditional modes of scansion and the development of a more adequate theory of poetic rhythm—in the 1980's and published the results in a book, *Rhythmic Phrasing in English Verse* in 1992 and a brace of supporting essays (1985, 1986a, 1986b, 1992, 1993a, 1993b, 1994a, 1994b, forthcoming). Traditionally, poetic rhythm has been regarded as a structurally flat, one-dimensional repetition of various sorts of linguistic structures—morae, syllables, stresses, tones, intonational units, words, phrases, clauses, etc.—pa PA pa PA pa PA pa PA (and the like). In its most extreme realization (e.g., in Slavic metrics), this approach to rhythm provides statistical counts of many types of linguistic repetition, not just some major type, claiming that a poem's rhythm is a product of its overall 'repetitive' style. Central to all traditional approaches to poetic rhythm is the concept of rhythmic 'tension', which, in these approaches, results from the establishment of, and then departure from, certain linguistic/cultural norms. Muddying the waters more than a little, these approaches to poetic rhythm call the linguistic norms, *meter*; the departures from the linguistic norms, *rhythm*. That is, in these theories, the *rhythm* of a poem is its *meter*, while things that contradict a poem's *meter*, are its *rhythm*. If this confuses you, it is not your fault. Traditional approaches to rhythm are an enormous conceptual mess.

In my 1992 book, I suggest that poetics follow contemporary music theory (e.g. Schenker 1935/1979, Cooper and Meyer 1960, Meyer 1973, Lerdahl and Jackendoff 1983, and Kramer 1988), which views rhythm as a multi-dimensional interaction among several structurally distinct prominence hierarchies, invoked by the text, but, in the end, independent of it. In terms of traditional poetics, this musical treatment of rhythm effects a kind of Kantian/cognitive revolution in the rhythmic analysis of poetry. In contemporary music theory, the most basic principles of rhythmic organization are products of mind, not products of what the mind encounters (i.e.,

musical events, linguistic events, or whatever). From this theoretical perspective, many of the assumptions about rhythmic structure in traditional poetic scansion go by the way. Rhythmic tension is not primarily a product of linguistic norms and deviations, but of the cooperation/clashing among very different rhythmic structures, what music theorists call the rhythmic 'components'. These rhythmic components, while using repetition in various ways, have distinct shapes that result from their very different structural features. And the major generator of these different rhythmic shapes is not the regularity/irregularity of their reiteration but their different types of horizontal connectedness and vertical ordering. Importantly, the relation between text and rhythm in this theory is not transparent, but heavily interpretive. Our innate 'rhythmic competence' provides certain rhythmic forms and certain preferences for how these forms can be elicited, preferences that are often overtly conflicting. Rhythmic media, such as music and language, provide stimuli that engage these preferences, and in doing so, invoke our rhythmic abilities. This conception of rhythm allows for the fact that the same stimulus can be responded to rhythmically in different ways, depending on how the responder weights and orders our shared rhythmic preferences. With this theory, rhythmic response become interpretive, the full equal in quality and complexity to other sorts of literary interpretation.

As its title reflects, the major focus of my 1992 book is on rhythmic *phrasing*, those components of rhythm that actively subdivide a text into parts (and those parts into smaller parts). Rhythmic phrasing is articulated by *two* rhythmic components, what music theorists call *grouping* and *prolongation*. This active partitioning of a text forms a kind of cognitive center to a rhythmic experience, a center that is flanked by rhythmic components that are not as concerned with partitioning but are more continuous or discontinuous, as the case may be. Music theorists call the more continuous component of rhythm, *meter*, and the more discontinuous component, *theme*. Together, these phrasal and non-phrasal components articulate a four-part, or quadratic, organization for rhythmic experience, a result that forms the foundation for my rhythmic poetics as a whole.

These four rhythmic components are ordered, both in their developmental history and their structural complexity. Meter develops first and is the simplest form; theme develops last and is the most complex form. Grouping and prolongation mediate between meter and theme, with grouping closer to meter and prolongation closer to theme. Given this graded complexity and developmental sequence, I like to number the rhythmic components and refer to them as 'levels'. *Meter* is level 1; *grouping*, level 2; *prolongation*, level 3; and *theme*, level 4.

The Components of Rhythm		
Level 4	Theme	Non-phrasal (discontinuous)
Level 3	Prolongation	Phrasal (partitioning)
Level 2	Grouping	
Level 1	Meter	Non-phrasal (continuous)

In terms of this theory of rhythm, one of the great confusions of traditional poetics, a confusion that I return to again and again in my 1992 book, is its claim that meter is the most active subdividing agent in a poem, and its attempt to calque aspects of grouping and prolongation onto meter so that this claim can be more effectively defended. This tendency appears in the traditional divisioning of poetic lines into metrical 'feet', a gesture that, in most cases, has no experiential basis; in its claim that the caesura is a metrical event, a claim that makes nonsense out of metrical order more generally; in the valorizing of visual lines as a poem's principal 'parts', a claim that blocks any attempt to analyze the coherent partitioning of a text as a whole, given that many lines are composed of just linguistic and rhythmic fragments; in the reducing of most phrasal structures to the status of metrical 'variations'—foot substitutions, misplaced or multiple caesurae, and enjambment—rather than exploring these structures as self-standing rhythmic organizations in themselves; and so forth. As the ordering of the rhythmic components makes clear, the preoccupation of traditional poetics with meter also reduces the explanatory power of its results as a matter of course. Meter is the

simplest rhythmic component and is only the most dominant structural influence in very song-like poems. The center of poetic concern has generally been the lyric, whose rhythmic dominant is not meter, but grouping. It is no surprise that traditional metrics has never been able to provide strong representations of the rhythmic expressiveness of lyric poetry. It willfully peripheralizes what it needs to explore in order to accomplish this task.

### 3 The Rhythmic Components

Nothing exactly like this theory of rhythm has ever been suggested for poetry, so it might be useful to outline exactly what rhythmic intuitions each of the four rhythmic components represents.

#### 3.1 Meter

In this theory of rhythm, meter is not a regular repetition of linguistic forms or even a response to events that occur in equal times, but a point-action, cognitive gesturing—a felt pulsation, or *beating*. Metrical beating can be elicited by many different sorts of stimuli, some of them very irregular in both the quality and temporal spacing of their events. Metrical beats also frequently occur where there is no stimulus at all, the beating being a result of the structural inertia of the rhythmic form itself. In my experience, most naturally occurring oral language—conversation, oratory, broadcasting, etc.—tends to be metrical. Most free verse also elicits a beating, although this beating is usually less detailed and less regular than the beatings maintained by versified poetry.

For instance, in my 1992 book, I claim that even free verse texts with ametrical, visual lineation and a very irregular ordering of syllables and stresses, such as the 'Without invention' passage from William Carlos Williams' *Paterson*, can set up a salient and fairly regular beating (Cureton 1992: 278-323).

Without invention nothing is well spaced,  
 unless the mind change, unless  
 the stars are new measured, according  
 to their relative positions, the  
 line will not change, the necessity  
 will not matriculate: unless there is  
 a new mind there cannot be a new  
 line, the old will go on  
 repeating itself with recurring  
 deadliness: without invention  
 nothing lies under the witch-hazel  
 bush, the alder does not grow from among  
 the hummocks margining the all  
 but spent channel of the old swale,  
 the small foot-prints  
 of the mice under the overhanging  
 tufts of the bunch-grass will not  
 appear. without invention the line  
 will never again take on its ancient  
 divisions when the word, a supple word,  
 lived in it, crumbled now to chalk.

--William Carlos Williams, *Paterson. Bk II, Pt 1* (Williams 1963: 50)

In my experience, the first 10 visual lines in this text form a fairly regular sestet of primarily four-beat lines, with the most salient level of beating, what musicians call the *metrical tactus*, sweeping along at a prosodic level somewhere above lexical stressing. The firm syntactic parallelism and inherent constraints on metrical structure stabilize this high-level beating, providing relatively clear points of metrical onset (i.e., strong, hypertactical beats) at various hierarchical levels. [In the display of metrical lines, I mark my experience of tactical beats in bold letters].

#### Visual Lines

Without invention nothing is well spaced,  
 unless the mind change, unless  
 the stars are new measured, according  
 to their relative positions, the  
 line will not change, the necessity  
 will not matriculate: unless there is  
 a new mind there cannot be a new  
 line, the old will go on  
 repeating itself with recurring  
 deadliness:

#### Metrical Lines

Without invention nothing is well spaced,  
 unless the mind change, unless the stars are new measured,  
 according to their relative positions, [beat]  
 the line will not change, the necessity will not matriculate:  
 unless there is a new mind there cannot be a new line,  
 the old will go on repeating itself with recurring deadliness: ...

The second half of this text can be gestured in eight similar metrical lines, a response that would make the text as a whole 14 metrical lines, or exactly sonnet length, an effect that Williams might indeed have intended, however subliminally. If we take the second *without invention* as a metrical coda on the sixth metrical line and a phrasal up-beat to the second half of the poem, the second half of the text might be metrically gestured as follows.

#### Visual lines

without invention  
 nothing lies under the witch-hazel  
 bush, the alder does not grow from among  
 the hummocks margining the all  
 but spent channel of the old swale,  
 the small foot-prints  
 of the mice under the overhanging  
 tufts of the bunch-grass will not  
 appear. without invention the line  
 will never again take on its ancient  
 divisions when the word, a supple word,  
 lived in it, crumbled now to chalk.

#### Metrical Lines

nothing lies under the witch-hazel bush,  
 the alder does not grow from among the hummocks margining  
 the all but spent channel of the old swale,  
 the small foot-prints of the mice under the overhanging  
 tufts of the bunch-grass will not appear: without invention  
 the line will never again take on its ancient divisions  
 when the word, a supple word, lived in it, [beat]  
 crumbled now to chalk. [beat]

Of course, the looseness of the versification in this text allows for many other metrical responses. This is only the one that I tend to prefer.

Like the phrasal components, meter is essentially hierarchical, with any three metrical levels forming a metrical span, or *measure*, that often obtrudes perceptually, although it still remains essentially continuous with preceding and following measures. For instance, the four tactical beats that occur in most of the metrical lines in the Williams text are graded for strength. The first beat is strongest; the third beat is somewhat weaker; and the second and fourth beats are weakest. This metrical hierarchy is best represented by a dot matrix, in which horizontal rows of dots represent levels of beating and dot columns, individual beats.

Without invention nothing is well spaced,

Levels of beating can be labelled. The weakest level of beating is the *pulse*. The strongest level of beating is the *tactus*. A measure of tactical beats is a *line*. A measure of lines is a *stanza*. A measure of stanzas is a *form*. I like to call the level of beats that articulates part of a line, a *lobe*; part of a stanza; a *part*; and part of a form; a *section*. Levels of beating between the pulse and tactus, if there are any, can be called *super-pulse* and *sub-tactus*. This terminology produces an array of metrical levels as follows:

#### Metrical Hierarchy

10	form
9	section
8	stanza
7	part
6	line
5	lobe
4	tactus
3	sub-tactus
2	super-pulse
1	pulse

The most idiosyncratic fact about meter is its rigidity. Metrical measures are mandatorily strong-initial and, with only occasional exceptions, consistently alternating (in duple or triple patterns). Metrical hierarchies also seem to be limited in scope to about the ten

levels I have named above, and many metrical structures have fewer than these ten levels. For instance, as I like to gesture the text, the 'Without Invention' passage has only *six* levels of beating. Tactus, lobe, line, part, stanza, and section. It is one metrical section; this metrical section breaks into two metrical stanzas; and each of these stanzas break into three metrical parts. Then each metrical line has beats at the levels of tactus, lobe, and line. To my intuition, the text has no regular sub-tactical or super-sectional levels of beating.

#### Section 1, Stanza 1, Part 1

Without invention nothing is well spaced,  
unless the mind change, unless the stars are new measured,

#### Section 1, Stanza 1, Part 2

according to their relative positions, {beat}  
the line will not change, the necessity will not matriculate:

#### Section 1, Stanza 1, Part 3

unless there is a new mind there cannot be a new line,  
the old will go on repeating itself with recurring deadliness: without invention

#### Section 1, Stanza 2, Part 1

nothing lies under the witch-hazel bush,  
the alder does not grow from among the hummocks margining  
the all but spent channel of the old swale,

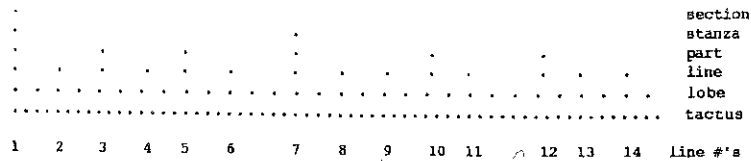
#### Section 1, Stanza 2, Part 2

the small foot-prints of the mice under the overhanging  
tufts of the bunch-grass will not appear: without invention

#### Section 1, Stanza 2, Part 3

the line will never again take on its ancient divisions  
when the word, a supple word, lived in it, {beat}  
crumbled now to chalk. {beat}

The rigidly declining, alternating metrical structure of this text can be easily seen by displaying the dot matrix representation for the meter of the text as a whole.



In terms of this theory, there are many ways to articulate and vary a meter--the vertical placement of the pulse, the choice of duple vs. triple alternation, the modulation of the length of measures between duple and triple, the placement of these modulations, etc.--but the most striking metrical differences involve the number of metrical levels established and maintained, especially at sub-tactical levels. For instance, at the opposite pole to the fairly weak metrical organization of the 'Without Invention' passage would be song-like texts, such as Hardy's 'Lines', which invoke a full array of both sub-tactical and super-tactical levels. Hardy sub-titled this poem 'To a Movement in Mozart's E-Flat Symphony', underlining its especially musical movement.

Lines

To a Movement in Mozart's E-Flat Symphony

Show me again the time  
 When in the Junetide's prime  
 We flew by meads and mountains northerly!--  
 Yea, to such freshness, fairness, fulness, fineness, freeness,  
 Love lures life on.

Show me again the day  
 When from the sandy bay  
 We looked together upon the pestered seal!--  
 Yea, to such surging, swaying, sighing, swelling, shrinking,  
 Love lures life on.

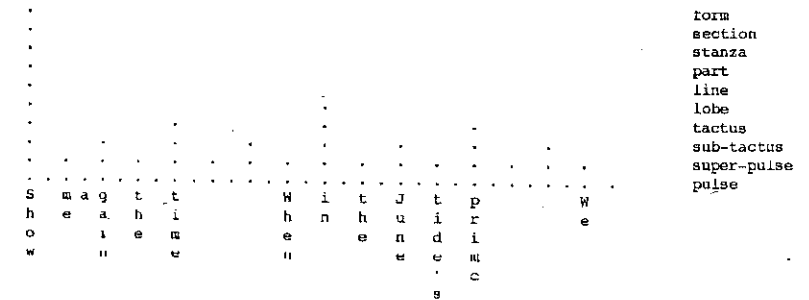
Show me again the hour  
 When by the pinnacled tower  
 We eyed each other and feared futurity!--  
 Yea, to such bodings, broodings, beatings, blanchings, blessings,  
 Love lures life on.

Show me again just this:  
 The moment of that kiss  
 Away from the prancing folk, by the strawberry-tree!--  
 Yea, to such rashness, ratheness, rareness, ripeness, richness,  
 Love lures life on.

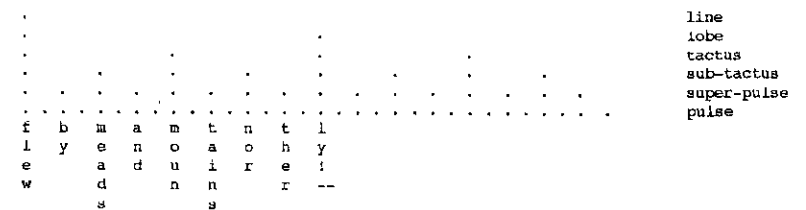
--Thomas Hardy (Hardy 1976:458-59)

As in the Williams text, tactical beating in this poem sweeps along at a prosodic level somewhat above lexical stressing, but unlike the Williams text, 'Lines' extends to four stanzas, establishing a super-sectional beating, too; and, in a very unusual metrical gesture, 'Lines' maintains the maximal three levels of sub-tactical beating, thus achieving all ten metrical levels. The five visual lines in each stanza form perfectly square, regular quatrains of four-beat lines, with the first two visual lines in each stanza forming one metrical line. This very song-like meter is then made even more song-like by its varied relation to the poem's linguistic prosody, and therefore rhythmic phrasing, especially in the jammed fourth visual lines of each stanza (*Yea, to such...*) and in the melismatic refrains (*Love lures life on.*).

Metrical Line 1

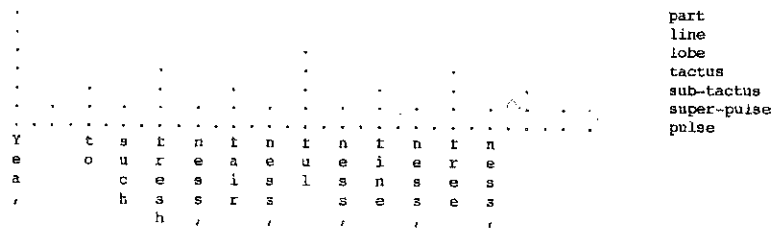


Metrical Line 2

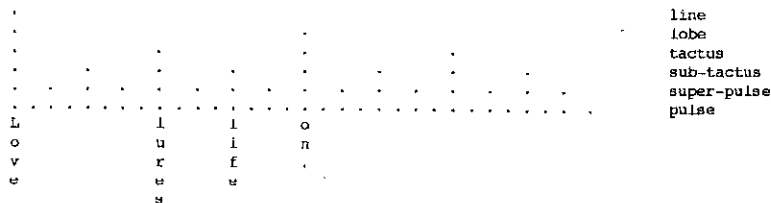




Metrical Line 3



Metrical Line 4



And so forth...

The standard lyric usually evokes a metrical structure that falls somewhere between these two extremes of metrical looseness and rigor, usually maintaining only one level of sub-tactical beating and limiting its metrical variation to certain standard gestures—usually final caudation (i.e., an extension of duple movement to a triple) at certain regularly recurring levels and positions. For instance, the standard Renaissance sonnet has seven levels of beating, including one sub-tactical level. Each pentameter line has one caudated lobe. And the sonnet form as a whole is doubly caudated at the end, extending itself to three stanzas (two quatrains and a sestet), the last of which has either three parts or two parts with three lines in each part (i.e., the sestet).

In comparison to traditional metrics, the advantages of these metrical representations are many. These scansiones eliminate illusory structures such as foot boundaries; purge metrical structures of

conflations with visual form and phrasing (e.g., caesuras, etc.); highlight the definitional features of meter, including its hierarchical organization and mandatorily alternating, declining contours; and unify the metrical treatment of tactical beating, the major focus of traditional scansion, with the metrical treatment of lines, parts of lines, parts of stanzas, stanzas, and poetic forms as a whole. These metrical representations also diffuse much of the unproductive controversy about the rhythms of poetry vs. everyday language, and free verse vs. conventionally versified forms by recognizing the full generic scope of meter across such rhythmically peripheral linguistic characterizations. In this theory, metrical response is not limited to verse, much less versified forms.

The major lack in this theory of meter is any explicit specification of exactly which linguistic structures invoke which metrical responses—and why. Hopefully, progress will be made on this important issue in the near future. Full systems of metrical preference rules have already been developed for music, and given that rhythm is a general cognitive phenomenon, we might expect the metrical preference rules for poetry to be very similar.

### 3.2 Grouping

Grouping overcomes some of the inflexibility and insensitivity of meter by tracking the rhythmic stimulus more closely, schematically representing its structural peaks and divisions. As its name reflects, it does this by iteratively grouping structurally subordinate events around physically proximate structurally superordinate events, building the result into a well-formed hierarchy. Like meter, grouping prefers duple divisioning, but, unlike meter, it is not limited to horizontally uniform, alternating patterns. Each group has one and only one peak, or strong element, but this one peak can occur alone or can be surrounded by as many as six weak elements. Instead of rigid uniformity, grouping prefers various proportional shapings, both static and dynamic—halvings, doublings, crescendos, inversions, progressive expansions and contractions, and mirror symmetries such as chiasmic patterns; and exactly opposed to meter, it tends to prefer strong-final, or climactic structures. Grouping also has a more extended vertical and horizontal scope than meter, often embracing a rhythmic experience as a whole. Grouping responses to

poetry can easily extend to 20 levels. When it is combined closely with meter, as it is in the lyric poem, grouping tends to cadence textual spans that meter initiates and projects, forming the most characteristic rhythmic complex in the lyric poem--the phrased measure.

The major level of linguistic organization that evokes grouping is prosody--syllabification, stress, tone, intonation, etc. In language, the basic structural material is meaning/information, and it is the linguistic prosody that arrays this information into peaks, valleys, and domains of interest as it flows in the speech stream. Grouping responses to poetry are not limited to prosodic stimuli, however. Various syntactic and discourse structures can elicit highly organized grouping, even though these linguistic structures are more suited to other rhythmic purposes. With its rhythmic dominant in grouping, a lyric poem will often shape syntactic and discourse structures so that they resemble prosodic configurations, extending grouping architecture to the limits of the text as a whole. When this occurs, the grouping peaks at each level in a grouping hierarchy will often approximate a kind of informational sketch of the text as a whole. Going from top to bottom, each level of grouping organization adds a new level of informational elaboration, comparable to harmonic ornamentation in music.

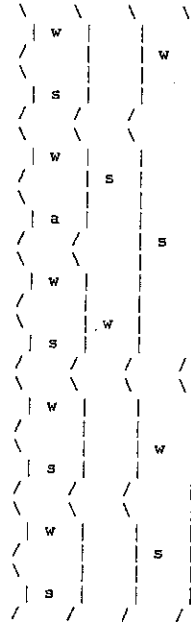
The 'Without Invention' passage from Williams' *Paterson* is highly lyric and therefore has an unusually clear and shapely grouping structure, especially at high levels. The text meditates on the metaphysical implications of prosodic invention. To do this, Williams uses Whitmanesque parallels, which, at the center of the high-level grouping, are reiterated in five syntactic figures composed of a negative conditional and then consequent, a binary, rising grouping--'Without/unless X, Y'. If we bracket these groups and use 'w' (for 'weak') to indicate the conditional valleys and 's' (for strong) to indicate the consequent peaks, this yields the following.

Without invention,	w
nothing is well spaced,	s
unless the mind change...	w
the line will not change...	s
unless there is a new mind	w
there cannot be a new line...	s
without invention,	w
nothing lies under the witch-hazel...	s
without invention,	w
the line will never again take on...	s

Within these five binary groups, Williams provides two variants in the consequent: (1) reference to order in the world/space and (2) reference to order in the poetic line/time. Rhythmically analogous to the five-part rising, binary grouping in which they occur, Williams twice iterates and alternates these variants--first, presenting reference to the world/space, then presenting reference to the line/time. For Williams (and many poets), poetic/temporal transformation is metaphysically prior to perceptual/spatial transformation; and to reflect this, Williams places the references to the poetic line in final, climactic positions in this higher-level pairing. The one exception to this alternation between world/space and line/time is the third group in the five-part organization, which, by referring to the line/time, just echoes the second group. This echo does not add information and therefore is felt as weak. It is a local ornamentation that establishes a level of grouping structure between the lower-level five-part alternation and its higher level, two-part analogue. This yields a firm, three-level organization in which binary, rising motion

at lower and higher levels is modulated with a moment of binary, falling motion in between.

Without invention,  
 nothing is well spaced,  
 unless the mind change...  
 the line will not change...  
 unless there is a new mind  
 there cannot be a new line...  
 without invention,  
 nothing lies under the witch-hazel...  
 without invention,  
 the line will never again take on...



The rest of the grouping structure of this text is similarly firm yet varied, and much of the rhythmic interest of the poem arises from how this grouping is proportioned, configured, and then positioned with respect to the other rhythmic components. For instance, the first consequent in the five-part iteration of the negative conditional covers only four words (i.e., 'nothing is well spaced'), but the fourth consequent covers 41 words, an enormous expansion.

nothing lies under the witch-hazel  
 bush, the alder does not grow from among  
 the hummocks margining the all  
 but spent channel of the old swale,  
 the small foot-prints  
 of the mice under the overhanging  
 tufts of the bunch-grass will not  
 appear:

This expansion is also presented in a triplet of echoing groups (i.e., *nothing...; the alder...; the small foot-prints of the mice...*) that stands alone in the exclusively binary grouping texture at these levels.

The interaction between meter and grouping in the text is especially complex. In my reading, each half of the text is articulated into exactly ten intonational units/groups.

*Intonational Units: First Half of the Text*

- (1) Without invention
- (2) nothing is well spaced,
- (3) unless the mind change.
- (4) unless the stars are new measured,
- (5) according to their relative positions,
- (6) the line will not change.
- (7) the necessity will not matriculate:
- (8) unless there is a new mind
- (9) there cannot be a new line,
- (10) the old will go on repeating itself with recurring deadliness:

*Intonational Units: Second Half of the Text*

- (11) without invention
- (12) nothing lies under the witch-hazel bush,
- (13) the alder does not grow from among the hummocks margining the all  
 but spent channel of the old swale,
- (14) the small foot-prints of the mice under the overhanging tufts of the  
 bunch-grass will not appear:
- (15) without invention
- (16) the line will never again take on its ancient divisions
- (17) when the word,
- (18) a supple word,
- (19) lived in it,
- (20) crumbled now to chalk.

But as we saw earlier, the three negative conditionals in the first half of the text are delivered in six metrical lines, a proportion of 1/2; the two negative conditionals in the second half of the text are delivered in eight metrical lines, a proportion of 1/4. It is also significant that, while there are almost exactly the same number of visual lines and intonational groups (21 vs. 20), *none* of the visual lines are themselves intonational units and only the first and last visual lines ('Without invention nothing is well spaced' and 'crumbled now to chalk') are metrical.

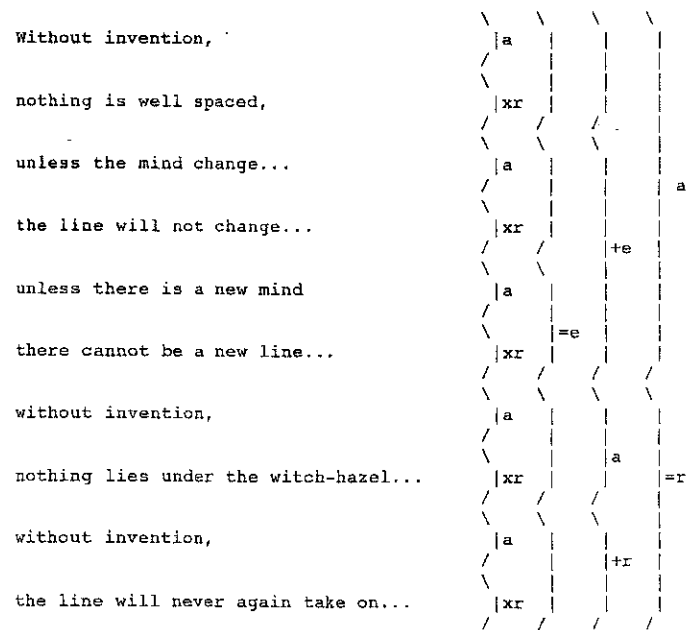
### 3.3 Prolongation

Grouping subordinates events to one another but does not specify their qualitative linear connections. These horizontal connections are ordered by the third component of rhythm, prolongation.

Prolongation accounts for our intuitions of goal-oriented movement. In prolongation, each event is evaluated in terms of its anticipation of or extension from some point of structural completion/arrival, with more local arrivals serving as subcomponents of more global arrivals, often to the extent of the rhythmic experience as a whole. As in grouping, this allows for the layering of different types of prolongational motion--extensions within anticipations, anticipations within extensions, and so forth. Prolongational connections also differ substantially in quality. In addition to events that progress firmly toward or away from some arrival (what we might call conjunctive prolongation), there can be events that just reiterate and therefore are more static/adjunctive, that advance more vertically than horizontally and therefore are subordinating/subjunctive, or that qualify and therefore advance more disjunctively.

In language, it is primarily syntax that evokes prolongational responses, but not exclusively so. Prolongational responses can also be elicited by discourse structure--the development of a story, an argument, or a dramatic experience. Within syntax, complements mark points of prolongational arrival, and syntactic relations determine prolongational quality (adjunctive, subjunctive, conjunctive, or disjunctive). For instance, in the high-level rhythms of the 'Without Invention' passage we have been examining, the five-part iteration of the negative conditionals 'Without/unless X, Y'

provides a strong center of anticipatory, conjunctive motion. At the highest level, the two-part movement from the first part of the text to the second is also anticipatory, although thematically reiterative and therefore adjunctive. In between, prolongational motion is first extensional and then anticipatory. The first mention of the line/time extends subjunctively the opening reference to the world/space, while at a subordinate level, the second mention of the line/time extends further, this time with an adjunctive motion. Then the second mention of the world/space anticipates the remention of the line, and the final mention of the line/time achieves a subjunctive closure. This chiasmic movement--beginning, extension, anticipation, and then ending--is the most canonical prolongational motion in poetry. It fills the center of a poetic experience with digressive and then anticipatory tension. If we label anticipations 'a' extensions 'e', and arrivals 'r', and distinguish among adjunctive, subjunctive, conjunctive, and disjunctive motion with the symbols '=','+', 'x', and '-', respectively, this yields the following prolongational structure for high-level prolongational motion in the Williams text:



There is still much to be done before we fully understand prolongational motion in poetry. As with meter, rhythmic syntaxes have been suggested for music, but what I have suggested here only touches the surface of formulating a full theory of our prolongational response to language. Hopefully, progress on this issue will also be forthcoming in the near future.

### 3.4 Theme

While meter, grouping, and prolongation connect events that are juxtaposed in a rhythmic experience, we also have the ability to cognize rhythms that are more discontinuous. Musicians call these sorts of rhythms *themes*. In thematic rhythms, events are connected into loose networks composed of strands of discontinuous events related by some principle of cognitive significance—similarity, difference, part-whole relations, cause-effect relations, similar structural positioning, formal transformation, linear permutation, and so forth. These thematically related events form rhythmic *motives*, whose elements foreground related, but variant, differences. These theme-and-variation gestures are structurally free but very complex; therefore, in most cases, it is these gestures that give a rhythmic experience its personality, its air of improvisational uniqueness.

In poetry, thematic rhythms can be set up by many different sorts of structures—sound, intonation, syntax, etc.; but the major linguistic source of thematic rhythm is meaning, especially lexical meaning. For instance, in the Williams text, we feel the improvisational differences in the thematic relations among the various references to the mind, the world/space, and the line/time. Many of these references are realized by formally parallel nouns:

The Mind: *invention, mind, mind, mind, invention, invention*  
 The World/Space: *nothing, stars, positions, nothing, witch-hazel, bush, alder, hummocks, channel, swale, foot-prints, mice, tufts, bunch-grass*  
 The Line/Time: *line, line, deadliness, line, divisions, word, word, chalk*

In all three of these thematic groups, the nouns stand in various relations. The nouns that refer to mind are formally repetitive and, semantically, stand in relations of agent-to-action or agent-to-result (i.e., *mind* vs. *invention*). Many of the nouns that refer to space stand in relations of contiguity (*bush, alder, mice, swale, stars*) or part-to-whole (*nothing* vs. all of the other words, *foot-prints* and *mice, tufts* and *bunch-grass, channel* and *swale*, etc.). And the nouns that refer to time are an amalgam of both of these (agent/instrument-to-result: *line/word* vs. *deadliness/chalk*; part-to-whole: *line, divisions, word*).

There are many other significant thematic motives in the text, too: the motif involving the negative conditionals, which varies between the function words *without* and *unless*: *Without, unless, unless, unless, without, without*; the motif involving renewal, which involves largely adjectives and adverbs: *well, new, new, new, old, spent, old, ancient, supple, crumbled, now*; the motif involving measure and change, which largely involves verbs and participles: *spaced, measured, change, matriculate, repeating, recurring, lies, grow, appear, lived*; the many negatives in the text: *nothing, not, not, not, nothing, not, not, never*; the motif involving modals and other auxiliary verbs: *is, are, will, is, be, will, does, will, will*; and the the motif involving tense and time reference:

relative:	<i>spaced, change, be, recurring, margining, spent, overhanging, crumbled</i>
future:	<i>will...change, will...go on repeating, will...appear, will...take on</i>
present:	<i>is, are...measured, is, lies, does...grow,</i>
past:	<i>lived</i>

Both within and among these groups, many semantically related words are presented in parallel syntactic structures, too, further heightening their thematic relatedness.

without		invention				
unless		nothing	is		well spaced	
unless	the	mind		change		
	the	stars	are		new measured	
unless there is	a new	mind there	can not			
		be				
without	a new	line				
		invention				
	the	nothing	does not	lies		
	the small	alder	grow			
without		footprints	will not	appear		
		invention				
	the	line	will never			
				take on		
	its ancient	division				
	a	word				
	a supple	word				
				lived		

The general logic of these thematic rhythms is also strongly supported by the physical presentation of the text—its visual form. As we noted earlier, this visual form cuts across the continuities and partitionings established by the other three components of rhythm—meter, grouping, and prolongation, continually interfering with their intentions and, in the process, creating a series of textual fragments that, if anything, are also thematic in texture. The language contained within these visual lines takes on a static arrangedness that is similar to atonal music. Instead of emphasizing lineal beginnings, middles, and ends, these visual lines often foreground their *peripheries*, and in these peripheries, we often find just those items that are major elements in the thematic rhythms we have just outlined. For example, the second visual line is bracketed by *unless*, one of the function words involved in the negative conditionals:

unless the mind change, unless

The sixth line is bracketed by verbal auxiliaries (*will* and *is*), which play a significant role is the thematic elaboration of tense:

will not matriculate: unless there is

The ninth line is bracketed by *repeating* and *recurring*, synonyms that play a significant role in the theme of renewal and change:

repeating itself with recurring

The tenth line is flanked by *deadliness* and *invention*, thematic antonyms.

deadliness: without invention

*Line*, the thematic center of the text, appears in line peripheries three times—in lines 5, 8, and 18:

line will not change, the necessity  
line, the old will go on  
appear: without invention the line

And so forth. Being the text's versification, this visual thematizing pervades the text and strongly suggests that theme is the dominant rhythmic component in the poem as a whole.

#### 4 The Temporal Paradigm

The rhythmic representations that we have just reviewed are a significant advance for poetics, in and of themselves, but they take on a much greater significance if they are generalized and applied to other problems in our understanding and analysis of poetry.

A first step in this process is the realization that these four 'components' of rhythm—meter, grouping, prolongation, and theme—are not just loosely related, but are composed of a set of coherently ordered, dialectically related, features, many of which are central to human sensibility. Other analyses are certainly possible, but at the moment, I like to represent these features in 11 dimensions. I call this featural matrix 'The Temporal Paradigm'. (see the chart on the next page)

## The Temporal Paradigm

### RYTHMIC COMPONENTS

TEMPORAL FEATURES	Meter cyclical	Grouping centroidal	Prolongation linear	Theme relational
equative relation	similarity	difference-in-similarity	similarity-in-difference	difference
sequential relation	occurrence repetition succession	correspondence prominence proportion	transition direction implication	connection distinction simultaneity
subject-subject relation	participation	obligation	cooperation	freedom
subject-event relation	subjective	objective-in-subjective	subjective-in-objective	objective
semiotic relation	icon	emblem	index	symbol
experiential process	reaction passive	affection reciprocal	exploration active	creation improvisatory
clock time orientation	past	present	future	relative
relational scope	proximate	local	regional	global
event position	initial	medial	final	peripheral
contour	fall	rise-fall	fall-rise	rise
volatility	fixed	constrained	volatile	free

The basic claim of this paradigm is that these rhythmic components represent, not just superficial regularizations of events, as rhythms are often thought to be, but whole modes of human sensibility—different existential logics, if you will. As the temporal paradigm details, each of the rhythmic components is associated with different qualitative events, different relations between events, different relations between the perceiver and the events perceived, different interpersonal relations, different modes of signification, different types of cognitive processing, different temporal orientations, different structural scopes, different degrees of structural freedom, different positional foci, and so forth. The number and significance of these features and the entailment relations that they present, both within each rhythmic component and across the four components as a whole, suggest a highly

constrained theory of human sensibility, one in which the choice of a certain sort of cognitive investment (e.g., in similarity vs. difference) also entails a wide-ranging collection of other investments—e.g., fixity vs. flexibility, passivity vs. improvisation, subjectivity vs. objectivity, participation vs. isolation, initialization vs. peripheralization, succession vs. simultaneity, and so forth). These entailments define four cognitive complexes/*complexions* that seem to lie near the center of *human nature* and therefore might be expected to exert a powerful influence on all other major products of mind—language, psychology, social interaction, cultural formation, cultural history, ideological premises, ethical investments, religious orientations, and so forth.

If this is indeed so, the question becomes: Exactly how might this influence be exerted, and given this influence, how might the humanities and human sciences—including the other aspects of poetry that we understand so poorly—be re-conceptualized in these terms?

### 5 Rhythmic 'Telling': Literature, Language, and Rhetoric

The hypothesis I have been pursuing is that the major products of human cognition are chaotic, or fractal, in organization, with the rhythmic components being the major chaotic 'attractors'. That is, there seems to be evidence that things like language and rhetoric, society and history, culture and literature, are also basically quadratic in form; that this quadratic divisioning follows the features of the four rhythmic components catalogued in the temporal paradigm; and that, any further structural elaboration, if it occurs, is itself quadratic in form and rhythmic in definition—and so on, often to very fine levels of delicacy. Following Amittai Aviram (1994), I like to call this embodiment of rhythm in various products of mind 'rhythmic telling'. Over time, our basic rhythmic capacities are 'told' out into human sensibility, thought, and cultural activity so that they take on a rhythmic shape and development.

For instance, within literary studies, this claim connects elegantly with Northrop Frye (1957, 1981, 1990) and Hayden White's (1973, 1978, 1987) quadratic theory of the major types of literary production, the major literary genres, the major modes of literary emplotment, the four master tropes, and the major systems of literary imagery.

	Level 1	Level 2	Level 3	Level 4
	cyclical	centroidal	linear	relative
	meter	grouping	prolongation	theme
work genre	song	poem	fiction	play
plot	epic	lyric	narrative	dramatic
trope	romance	comedy	tragedy	satire
	metaphor	synecdoche	metonymy	irony
imagery	spring	summer	fall	winter
	morning	noon	evening	night
	birth	growth	maturity	death
	child	youth	adult	elder
	mineral	vegetable	animal	human
	earth	water	air	fire
	rain	fountain/spring	river	ocean/sea
	heaven	Eden	purgatory/earth	hell
	etc.	etc.	etc.	etc.

Through the work of Stephen Pepper (1942), White connects these literary quadratures with the four basic metaphysical orientations:

	1	2	3	4
metaphysics	formism	organism	mechanism	contextualism.

This claim also dovetails elegantly with Barbara Herrnstein Smith's (1968) quadratic array of discourse structures in poetry:

	1	2	3	4
discourse	paratactic	logical	temporal	dialectical

Many of the features of the temporal paradigm support these correlations: the dialectic from similarity to difference, subjectivity to objectivity, participation to freedom, origination to peripheralization, succession to simultaneity, repetition to distinction, and so forth.

While the phenomena considered by Frye, White, Smith, and Pepper deal more with the articulation and organization of meaning, the positional preferences of the four rhythmic components also provide a strong basis for motivating the inventories and uses of the

major rhetorical schemes. For instance, among sound schemes, alliteration repeats syllabic onsets and therefore is a reflex of meter; assonance, rhyme, and reverse rhyme repeat syllabic nuclei and therefore are reflexes of grouping; consonance repeats syllabic codas and therefore is a reflex of prolongation; and pararhyme repeats syllabic peripheries and therefore is a reflex of theme. These positional preferences also suggest a coherent organization of both syntactic reorderings--preposing vs. centering vs. postposing vs. peripheralizing--and schemes of lexical repetition--anaphora (i.e., initial repetition) vs. antistrophe (chiastic/centering repetition) vs. epistrophe (final repetition) vs. symploce (initial and final repetition together) and epanalepsis (repetition at peripheries).

	Rhetorical Schemes			
	1	2	3	4
sound schemes	alliteration	rhyme assonance reverse rhyme	consonance	pararhyme
syntactic schemes	preposing	centering	postposing	peripheralizing
lexical schemes	anaphora	antistrophe	epistrophe	epanalepsis symploce

This approach to the human becomes even more productive as the formal system becomes more complex and therefore more elaborately chaotic. For instance, much of linguistic form itself also seems to be organized into quadratic fractals that 'tell' the features of the four rhythmic components. As we have mentioned along the way, the organizational logics in the rhythmic components closely parallel the organizational logics in the four major levels of linguistic structure--paralanguage/phonetics/phonology, prosody, syntax, and semantics.

	1	2	3	4
Language	paralanguage phonetics phonology	prosody	syntax	semantics



According to our standard descriptive grammars, much of the formal elaboration within these four levels of linguistic structure is also quadratic. For instance, within prosody, it has been suggested that there are exactly four levels of stress (weak, tertiary, secondary, and primary) and four levels of prosodic phrasing in the prosodic hierarchy (syllable, clitic phrase, phonological phrase, and intonational unit). This quadratic framework might also provide an elegant motivation for the four basic tonal movements (fall, rise-fall, fall-rise, and rise). And within syntax, one finds a vast system of quadratic elaborations that parallel the rhythmic components: the basic levels of structure: word, phrase, clause, sentence; the basic morphological processes: compounding, derivation, inflection, and conversion; the basic sentence types: declarative, exclamative, imperative, interrogative; the basic word categories: noun, adjective, verb, adverb; the basic verbal specifications: voice, aspect, modality, tense; the basic nominal specifications: number, gender, case, and person; the basic tenses: past, present, future, relative; the basic aspects: perfective, imperfective, progressive, and perfect; the basic persons: 3rd, 1st, 2nd, and generic; the basic voices: passive, middle/reflexive, active, and causative; the basic types of nominal reference: generic, specific, definite, and proper; the basic clause elements: subject, verb, object, adverbial; the basic clausal constituents: subject-predicate, auxiliary-predication, verb-complement, complement-adverbial; the major types of adverbials: adjuncts, subjuncts, conjuncts, and disjuncts; and so forth.

Linguistic Correlates

	1	2	3	4
temporality	cyclical	centroidal	linear	relative
(a) general				
linguistic level	paralanguage	prosody	syntax	semantics
(b) prosody				
prosodic	stress	prosodic	theme-rheme	intonation

level		hierarchy tonicity		tonality
stress	weak	tertiary	secondary	primary
prosodic hierarchy/ tonicity	syllable	clitic phrase	phonological phrase	tone unit
intonation	fall	rise-fall	fall-rise	rise
(c) syntax				
general				
syntactic level	word	phrase	clause	sentence
sentence				
sentence types	declarative	exclamative	imperative	interrogative
mood	indicative	subjunctive	imperative	dubitive
elaboration	apposition	conjunction	correlation	comment
clause				
basic clause pattern	intransitive SV	copular SVC	transitive SVO/SVOC/SVOO/SVOA	adverbial SVA
clausal constituency	subject-predicate	auxiliary-predication	verb-object	adverbial
clause element	subject	verb	object	adverbial
adverbial	adjunct	subjunct	conjunct	disjunct
phrase				
phrase type	noun phrase	adjective phrase	verb phrase	adverb phrase
phrasal elaboration	apposition	modification	complementation	specification
noun phrase specification	quantifier cardinal	ordinal	central determiner	pre-determiner
verb phrase specification	voice	aspect	modality	tense
voice	passive	middle	active	causative

		reflexive		
aspect	perfective	imperfective	progressive	perfect
tense	past	present/ non-past	future	non-finite relative
modality	necessity	obligation	probability	possibility
major word class	noun	adjective	verb	adverb
reference	generic	specific	definite	proper
person	3rd	1st	2nd	generic
morphology				
word derivation	compounding	derivation	inflection	conversion

While a complete analysis of language from this rhythmic perspective would be a very large project and still remains to be done in full, even a partial elaboration of this task yields very interesting results for our understanding of poetry. For instance, if this analysis of language is correlated with its literary and rhetorical parallels, it yields strong, reasonable stylistic profiles of the poetic genres. For example, in this analysis, the canonical lyric poem is stylistically organic, comedic, logical, synecdochic, rhymed, stanzaic, chiasmic, copular, conjunctive, phrasal, adjectival, copular, modifying, present tense, 1st person, imperfective, subjunctive, exclamative, gendered, aspectual, reciprocal, and derivational, with a rise-fall intonation, a prosodic focus on tertiary stress and the clitic phrase, and an imagery that tends to focus on youth, Eden, growth, summer, noon, water, plants, etc.--a very reasonable characterization. Many of our canonical lyric poems have just this stylistic center.

In less canonical cases, this theory of poetic style as 'rhythmic telling' can be especially useful in exploring how poets use linguistic and rhetorical form to mix, amplify, and position the conflicting rhythms that characterize their sensibility, both across their poetic

corpus as a whole and in individual poems. For instance, the linguistic and rhetorical forms in the 'Without Invention' passage both amplify the mixture and relative positioning of the rhythms that we explored in the first part of this paper and reflect aspects of Williams' sensibility that are manifested throughout his poetic corpus.

The strong lyrical rhythms of the text are amplified by its logical argument (the negative conditionals: *unless/without X, Y*), by its lyrical imagery (vegetation, water, etc.), by its largely hyponymic organization of lexical meaning (*nothing* vs. *the witch-hazel bush, the alders, the swale, the mice, etc.*; and within these, *the tufts* vs. *the bunch-grass, the channel* vs. *the swale, etc.*) by its tight syntactic parallels (which we diagrammed earlier), by its moderate use of the present tense (*is, lies, etc.*) and copular clauses (*unless there is., there cannot be..., etc.*), by its strong thematic motif with adjectives (*new* vs. *old/ancient/spent/recurring*), by its moderate use of aspect (*recurring, repeating*) and reciprocals (*repeating itself*), by its moderate use of derivational morphology (*invention, deadliness, divisions, etc.*), and its relatively strong use of assonance (*line-mind-lies-mice; nothing-among-bunch-under-hummocks-tufts-crumbled; invention-unless-measured-relative-necessity-spent-never; etc.*). However, this lyricism is strongly muted by the text's avoidance of chiasmic structures, the first person, rhyme, logical generalization, a more syllabically controlled meter, rise-fall intonation, exclamatives, elaborated phrases (e.g., relative clauses), gender, subjuncts, comparisons and comparatives, indefinite reference, and a thematics that centers on personal relationships: worship, praise, blame, etc.

The more linear, prolongational rhythms in the text are supported by its thematic focus on achievement vs. failure and life vs. death, by its strong use of clauses, by its prominent verbs (*space, change, be, measure, lie, grow, appear, take, live, etc.*), by its moderate use of the progressive aspect (*recurring, repeating, etc.*), by its strong use of modality (*will, can*) and inflectional morphology, by its many references to future time, by the implicational relations in the correlative structures that present the negative conditionals, by its rich use of fall-rise intonation and tactical beating near the level of the phonological phrase, and by its relatively strong use of

consonance (e.g., *will-alder-all-channel-old--swale-small-crumbled; invention-unless-mind-change-line-cannot-among-hummocks-spent-bunch-again-ancient-when-crumbled*). However, these linear 'tellings' are strongly muted by its discontinuous, non-linear visual form and by its avoidance of a narrative storyline, the 2nd person, the active voice, definite reference, pronouns, and conjunctive adverbials, and transitivity and other sorts of complementation (besides the prepositional).

The great agents of the text's stylistic undermining of these lyric and narrative rhythms are its intense orientation, first, toward perception, the body, and their more static, cyclical rhythms and then its more pervasive orientation toward memory, the aesthetic, and their more relativistic, thematic rhythms.

The cyclical rhythms in the text are supported stylistically by its generally repetitive texture and paratactic argument, its many appositives (*unless...unless; the line...the necessity; nothing...the alder...the small foot-prints of the mice...; the word...a supple word*), its rich use of nouns (*invention, mind, stars, line, mind, bush, alder, hummocks, channel, word, chalk, etc.*), its pervasively generic reference (*the mind, the stars, the line, the necessity, a new mind, a new line, invention, the alder, the channel, the foot-prints, the bunch-grass, the work, chalk*), its prominent compounds (*witch-hazel, foot-prints, bunch-grass*), its pervasively intransitive verbs (*matriculate, change, lie, grow, appear, live, etc.*), its strong use of the passive voice (*spaced, measured, crumbled*), its foregrounding of contrasts in number (*invention, mind, line, etc. vs. stars, hummocks, foot-prints, tufts, etc.*), its strong use of falling intonation, its climactic reference to past time (*lived*), its many adjuncts (*under..., from among..., on..., in..., to...*), and its prominent alliteration (*nothing-not-new-never-now; mind-measured-mice-margining; relative-repeating-recurring-; overhanging-hummocks-hazel; change-ancient-channel-chalk; line-lies-lived-unless; spaced-stars-spent-small-supple; etc.*).

The relativistic, thematic rhythms are supported by the text's concern for the role of art in human sensibility, by its fragmenting and thematicizing visual form, by its generally variational texture, by its many negatives (*nothing, not, never, etc.*), by its prominent disjuncts (*without..., unless..., again*), by its prominent morphological

conversions (*new measured, the old*), and by its subtle pararhyme (e.g., *swale-will-well; swale-small-itself; change-channel-ancient-invention*).

#### V. Rhythmic 'Telling': Sensibility, Society, Culture, and History

The temporal paradigm and the notion of rhythmic 'telling' can also be useful in exploring the relation between poetry and cultural context, including cultural history. In fact, this approach conforms closely to much of the best work on these matters, which often refers to cultural moments as 'temporalities', albeit without the firm analytical basis that an explicit formalization of the rhythmic 'components' can supply. In this temporal approach to culture and history, the deep unities within and across cultural beliefs and practices at any given historical moment are motivated in terms of their principled relation to the formal features of one of the rhythmic components, and cultural history is motivated in terms of a dialectical, fractalized movement through the four components as a whole—from meter, to grouping, to prolongation, to theme (and then back to meter), with historical sub-cycles recapitulating this larger movement at smaller scales.

For instance, it is a common claim of recent work on modernism and postmodernism that the dominant social, ideological, and cultural texture of the twentieth century in the West has foregrounded distinction, difference, simultaneity, freedom, materialism, symbolism, improvisation, relativity, globality, and so forth (e.g., Jameson 1991, Kramer 1988, Harvey 1990, Perloff 1981, 1985, 1990, 1991, Bauman 1993, 1995) —just the features of the fourth rhythmic component—theme. It is these qualities that underpin such twentieth century cultural phenomena as pragmatism, democracy, socialism, global capitalism, scientific and humanistic relativity, cybernetics, individualism and hedonism, and aesthetic 'spatiality'—symbolism, cubism, jazz, atonality, talk poetry, sound poetry, concrete poetry, stream-of-consciousness narrative, and so forth. As many have pointed out, the sensory and psychological basis for this 'thematic' sensibility seems to be vision and memory. In both sight and memory, events tend to be qualitatively distinct, simultaneously presented, abductively related, improvisationally combined, structurally free, and so forth.

It is also a commonplace of contemporary criticism and historiography to regard the historical transition in the West from the Medieval, Renaissance, and Enlightenment cultures into the nineteenth century as a 'fall' from a vertically-oriented to a horizontally-oriented temporality--from the ethical to the political, the supernatural to the natural, the organic to the mechanical, the deductive to the inductive, and so forth (e.g., Tillyard 1944, Lovejoy 1936, McLuhan 1962, Thompson 1971, Foucault 1973, Spengler 1926/1928). The features of grouping catalogued in the temporal paradigm--correspondence, prominence, proportion, obligation, affection, reciprocity, locality, and so forth--provide an explicit anatomy of the featural composition of the vertical temporality. It is these features that underpin the Great Chain of Being, organicism, an agricultural, feudal and guild-based economy, scholastic argumentation and hermeneutics, alchemical science, aristocracy, monarchy, chivalry, chirography, and the Christian virtues of faith, obedience, and charity. The features of prolongation catalogued in the temporal paradigm--transition, direction, implication, cooperation, activity, futurity, regionality, volatility, and so forth--provide an explicit anatomy of the featural composition of the horizontal temporality. It is these features that underpin laissez-faire capitalism, science, oligarchy, meritocracy, industrialism, Newtonian physics, typography, nationalism, imperialism, progressivism, republican government, and a Victorian ethic that foregrounds practical intelligence, perseverance, and self-reliance. The sensory and psychological basis for the vertical temporality seems to be taste and emotion. The sensory and psychological basis for the horizontal temporality seems to be hearing and volition.

In the West, the fourth cultural matrix is the set of beliefs and practices associated with the Ancient, pre-Christian world--a cultural matrix that, in its purest form, is oral, traditional, magical, divinational, polytheistic, tyrannical, totemic, shamanistic, mythical, tribal, militaristic, and so forth (e.g., Ong 1962, 1982). This cultural matrix is usually animated by beliefs in communal fate, eternal return, and the warrior virtues of wisdom, justice, temperance, and courage. The major features of this cultural matrix are detailed by the features of meter catalogued in the temporal paradigm--similarity, repetition, succession, participation, subjectivity, passivity,

retrospection, proximity, fixity, decline, and so forth. The sensory and psychological basis for this cyclical temporality seems to be touch and sensation/perception.

	Cultural and Historical Correlates				
temporality	cyclical	centroidal	linear	relative	
history of the West	Ancient	Medieval, Renaissance and Enlightenment 1100-1750	Romantic 1750-1900	Modern & Postmodern 1900-	
philosophy	formism	organicism	mechanism	contextualism	
economy	hunting & gathering	agriculture	industry	information	
religion	polytheism	monotheism	naturalism science	humanism criticism	
social system	tribalism	feudalism	capitalism	socialism	
linguistic technology	orality	chirography	typography	cybernetics	
logic	conduction	deduction	induction	abduction	
temporal orientation	past	present	future	simultaneous	
primary political & economic group	tribe	city-state	nation	world	
primary social & personal group	family (kin)	estate (peer)	class (citizen/ comrade)	none (individual)	
government	monarchy	aristocracy	republic	democracy	
social ethic	communal fate	personal duty	social progress	individual freedom	
personal ethic					
	4 wisdom	faith	intelligence	imagination	
	3 justice	obedience	perseverance	freedom	
	2 temperance	charity	independence	variety	
	1 courage	purity	restraint	excitement	

These relations between rhythm, culture, and history can be used to place a text with some precision in its cultural context. For instance, as we have seen, with its centroidal rhythms, style, and rhetoric, the 'Without Invention' text invokes the Renaissance sonnet; but it also strongly resists many aspects of this temporality. The first resistance to this rhythmic centering is its many shifts toward a more linear, prolongational temporality. It is these shifts that give the poem its Romantic, Whitmanesque feel. However, this nineteenth century temporality is also resisted in various ways by the more continuous and more discontinuous temporalities. Among these, the thematic temporality is adopted as a rhythmic dominant, a gesture that is represented most strongly in the text's visual versification and pervasively variational form. At the same time, the cyclical temporality is adopted as a strong rhythmic subdominant. The high-level rhythms in the text, especially those that involve argument, meaning, rhetoric, and syntax are bent into more static, cyclical forms. Taken together, these interacting rhythms and their linguistic and rhetorical 'tellings' place the text quite precisely as an early (cyclical) modern (thematic) Romantic (prolongational) lyric (centroidal).

#### 6 Rhythmic 'Telling': The Metaphysics of Biology

The largest question that remains unanswered by this approach to poetry is the ultimate *source* of the rhythms that are invoked as its central axioms. Given sufficient care and effort, these rhythms are there for all to perceive; and the types of linguistic, rhetorical, and cultural analyses that are enabled by a close concern for these rhythms stand as arguments and evidence for their importance in human sensibility and cultural production. But these matters still do not confront the question of *why* these rhythmic forms occur, and when they occur, *why* they have just the structural features that they do. Why are there just four basic rhythmic forms--meter, grouping, prolongation, and theme? Why do these forms have just the qualities that we catalogued in the temporal paradigm? Why are these rhythmic forms ordered in the dialectical and historical progression that we have explored? Why are these rhythmic forms, rather than some other, non-rhythmic forms, 'told' out so pervasively into language, rhetoric, literature, sensibility, culture, history, and so

forth. Why are the products of this rhythmic 'telling' fractal in organization? And so forth. The striking innovation of the theory of poetry that I am suggesting is that rhythmic forms are not derived from language, or psychology, or social action, or even aesthetic expression. Rather, I am suggesting that things like language, psychology, and social action are derived from these rhythmic forms. That is, I am claiming that the rhythmic components and the formal features of which they are composed are metaphysical givens from which almost almost everything else in human experience is ultimately derived. Needless to say, without some further explanation, this claim only exchanges one sort of metaphysical determinism--be it social, economic, psychological, linguistic, aesthetic or whatever--for another. It is unreasonable to demand that such metaphysical claims be fully justified. In all explanatory systems, certain assumptions always remain undemonstrated and must be accepted on faith. On the other hand, all such undemonstrated assumptions must at least have an air of plausibility, and it is reasonable to demand that my assumptions about the centrality of rhythm in human experience be plausible in this way, too.

At this point, I think that the best motivations for this plausibility lie (1) in the physical architecture of the human brain and (2) in the relation between the features of rhythmic forms and similar forms that occur elsewhere in the physical and biological worlds. While research on the human brain is still young, it is my belief that, as this research proceeds, we will find that these rhythms provide the basic combinatorial logics of central processing in our neural architecture. Various things support this view. For instance, what is known at this point about the evolution, architecture, and functioning of the brain seems to support exactly a quadratic, dialectical, and developmentally sequenced organization of this central processing. We have four brains--a hind- or reptilian brain, a mid- or mammalian brain, a left cortex, and a right. What we know about the development and basic functions associated with these four brains also closely parallels the rhythmic components (e.g., Damasio 1994, MacLean 1973, Melges 1989). The hind brain developed first, is associated with bodily sensation and regulation, and is involved in a metrical time-keeping that, when disturbed,

results in cyclical pathologies like manic-depression. Thus the hind brain closely parallels the developmental position and temporal function of meter within our rhythmic competence as a whole. The mid-brain developed second, is associated with emotion and smell/taste, and is involved in processing that, when disturbed, leads to various psychoses involving the loss of a centered self. Thus, the mid-brain closely parallels the developmental position and temporal functions of grouping. The left and right cortex are not given a developmental sequence, but it is known that the left cortex is more closely associated with complex sequencing, including language, and the right, with the products of this sequencing, especially more spatial, non-sequential, holistic intuition (e.g., pitch space in music). Thus it might well be the case that the left brain is the primary source of prolongational rhythms and the right brain, of thematic forms. Given this neural architecture, the theory of rhythm I am suggesting might be interpreted as a certain type of biological determinism, in which the functional organization and developmental history of our neural architecture is recapitulated by being 'told' out into the functional organization and developmental history of our sensibilities and cultural activities.

Further evidence for this might be what is known about the human life cycle, which is often compared to cultural development (e.g., Vico and Spengler). A common view of the human life cycle is also quadratic and, in many details, closely parallels what I have claimed about the four rhythmic components (e.g., Anderson 1995). As children, our sensibilities are centered in bodily sensation, and because of this, in a more passive, local, and ritualistic participation in nature and human interaction. As youths/adolescents, these sensibilities broaden and deepen and become more centered in emotion, reciprocal exchange, idealization, modeling/admiration/worship, and other matters associated with forming the habits, personal 'tastes', and ethical order that constitute the core of human identity. As adults, we modify and then solidify these identities by putting them into practice in broader contexts--social interaction, political negotiation, economic production and exchange, marriage, child-rearing, and many sorts of planned exploration and discovery. Then as elders, we become less active and more reflective, critical, and, in many cases, idiosyncratic. We use memory and our

collective life experience to 'oversee' and advise, rather than act, usually from either a more distinguished or more peripheral social and economic position. Thus, the human life cycle also closely parallels the function and development of the rhythmic components.

Finally, on this issue of the metaphysics of rhythm, it might be noted that the organizational forms that are represented by the rhythmic components might well have a distribution in nature that goes well beyond our neutral architecture and life cycle. For instance, at the moment, the standard view of human evolution is that it also took place in exactly four stages--from australopithecus, to homo habilis, to homo erectus, to homo sapiens; and what is known about these developmental stages also seems to recapitulate the organization and development of the rhythmic components (e.g., Donald 1991). For instance, it is known that homo habilis lived a fairly local, domestic existence, while homo erectus was more of a hunter and adventurer. On the other hand, much of what we recognize as symbolic behavior--art, language, religious rituals, etc.--seems to have only appeared with homo sapiens, at the end of this developmental process. In his massive study of social behavior throughout the animal world, E. O. Wilson (1975) also claims that there are exactly four major structures that appear, what he calls 'the four pinnacles of social evolution', a fact that he traces to the different possibilities of genetic combination and its social control across species; and again, these structures closely parallel the organization of the four rhythmic components. The most primitive sort of genetic recombination, exhibited in things like slime molds, results in physically interdependent colonies of organisms that produce offspring identical to the parental forms--just like meter and cyclical 'tellings'. On the other hand, a less primitive sort of genetic recombination, exhibited in things like the social insects, results in hierarchical societies that produce offspring of a small number of functional types ordered into tight social and biological dependencies--just like grouping and centroidal 'tellings'. The social organizations of the non-human mammals and man are then freer and more complex, with the former based on competition for mates and an equal sharing of genetic material, just like prolongation and linear 'tellings' and the latter based on even freer principles, including such things as kinship relations, social contracts, and

voluntary altruism, which might be related more closely to rhythmic themes and their 'tellings'.

Time	Biological Correlates			
	Cyclical	Centroidal	Linear	Relational
sociobiology	colonial invertebrate	social insect	non-human mammal	human
neurology	reptilian brain	mammalian brain	left cortex	right cortex
psychological faculty	sensation body	emotion feeling	volition action	memory thought
sense	touch	smell/taste	hearing	sight
phylogeny	australopithecus	homo habilis	homo erectus	homo sapiens
ontogeny	child	youth	adult	elder
psycho-pathology	manic-depression	psychosis	neurosis	amnesia

The ultimate sources of our rhythmic competence might be very deep indeed. In fact, if Wilson is right, these sources might be intimately related to the propagation and evolution of all living things.

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