Comparing Shakespeare's Sonnet Sequence through Relational Diagram Models

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ABSTRACT That rich and emotional inward feeling—where both desire and profundity meet—is well expressed through the outward form of the sonnet. Sonnets serve as companions in our quest for this type of profundity; the best sonnets deliver rich, intellectually deep qualities reflecting life's insights and feelings. Such profundity may be gained through both general, and close reading. The intellectual depth of this experience is yet more enriched through the incorporative effects of taking in a sonnet sequence (if the author created such).

Though we may seek to grasp this “source” element, profundity, we realize it is externally intangible; we must approach such obliqueness through tools and mentors. The tools are representational models that can direct us toward our aim; the mentors assist us with these tools (directly, or by adding more tools). Our signified thing (in this case, profundity) is achieved through signifiers (in this case letters arranged into words, making the language of the poem visible, and further arranged through rules and structures agreeably organized to constitute the type of sonnet expected). Shakespeare is literally dead, but he is figuratively alive through the representational strength of the printed page (or digital means of visual and audio rendering).

We physically read Shakespeare's sonnets (symbols in line) nearly as his contemporaries did in the late sixteenth and the early seventeenth centuries (Figures 1 and 4). Such representations are fairly direct pathways to the source. In this paper, we refer to these direct, textual constructs as tier-one representational models. Is it possible to construct representations that yield even greater insight into the author's conceit? Yes, perhaps, through two approaches, the first by building a better tier-one representation—a representation that more informatively points to the source with less noise (Figures 2 and 5).

FIGURE 1: Sonnet 18: type setting, printing, and spelling conventions when Shakespeare sonnets were first published. A tier-one representation.

FIGURE 2: Sonnet 18, another example of a tier-one representation using current and applied spelling conventions (compare to above).

FIGURE 3: Sonnet 18: a tier-two representation: relies upon a tier-one representation as its proxy to "point" back to the thing signified.
The second approach is to construct a representation that is more direct in its path to another representation then it is to the source; we refer to this as a tier-two representation (Figure 3 and 6). These representations, designed to work in conjunction with other representations, may yield new and valuable intelligence respecting the source. If tier-one representations are the bricks, tier-two representations may allow us to understand the mortar, or view the building the bricks were arranged to compose. Relying most heavily on the research of the gifted critic and close reader of Shakespeare's sonnets, Helen Vendler, this paper provides a built-out example of what is meant by, and what may be gained through, the reorienting strengths of tier-two representations.

**INTRODUCTION** Let us (for just a brave, brief moment) set aside all conflicting thought and imagine a pure, intangible, source-thing—something that must rely on external representation to be known. We have, for example, measure and math to "see" observable and non-observable physics as natural law. We know that this natural law "permits" through restriction, "that which is." As sentient beings we act and react within this physical milieu; for us, as part of this natural order, our sources include perceptions of what we are, what we encounter, and what this composition yields. We can also imagine beyond our own restriction, which may or may not lead us to deeper revelation of yet-to-be-known source things.

Consider a phenomena, philosophy, or conceptual contrivance to be worthy of being communicated to another: through what representation is this sentience best conveyed? Conversely, what kind of representation should be utilized to generate the patterns that afford insight from the type of information we have at hand or desire to know? Through these representations we lead, or are lead to both know and to "feel knowingness." Felt knowingness results in emotive response: contentment or frustration, love or pride, fear or certainty, hope or despair, optimism or pessimism, acceptance or rejection, desire to preserve or desire to destroy, confidence or trepidation, glibness or profoundness. Representations (though they point to a source tangible thing), ultimately, point more deeply to the non-tangible. The most effective communications reach through to this depth—these intangible levers of human conscious and subconscious.

Information models, when directed at sentient recipients, those whom may possess prior knowledge (plus their collected user profile) advance or retard these emotive characteristics in combination to the "raw" intelligence conveyed. An irony of overtly expression-centric com-
 municative models is that they, though intended to push the emotive levers more directly, are oftentimes ephemeral in their effectiveness. Alternately, information-centric communications building upon prior knowledge (with an aim to advance the intelligence pool of the recipient as opposed to directly thrusting upon the emotive), may serve to build a more formidable emotive worldview. This is why appeals to or through glibness are best conveyed with relentless repetition, whilst things profound may strongly alter views via singular exposure.

Having argued that every “deepest” source point is intangible, it may benefit to back-pedal for a moment. For these intangibles may have very “close,” very real, tangible representational models. The idea of a perfect rabbit, for example, is fairly well represented by an actual, healthy rabbit, (particularly at the county fair where such things are judged and declared to be so, or in the wild where awareness and speed results in survival). However, the ideal of this perfect rabbit may be less well represented by a photograph, or less still than a written description.

For our model, the source is the point at the center of the thing, moving beyond the real because there are too many “reals” and they cannot all be the source. From this source-point tangible representational markers stretch out in every direction from that which they represent. Myriad representational markers, as stars, in a galaxy of distances and noise—surround that single ideal point which is noiseless and “undistant” unto itself—this is our über-model.

So now we’ve touched upon the source (the signified intangible point); their proxies—representational markers or points (the signifying tangibles); the distance these points are from the source point; and the noise which effectively tells us how successful one representational model (in context of its use or occurrence) is at representing the source. Distance can be understood by how the points may either be more, or less, accurately traceable in their representational value (the actual rabbit), or more or less cognitively tractable (the DNA schema of the rabbit). In the first instance the representation is ostensibly reflective of what the source thing looks like (we’ll call these less distant). In the second instance, the representation does not appear at all like the thing it represents (more distant). The former type (accurately traceable models), are more readily comprehended by a greater audience with less prior knowledge—the second type (cognitively tractable models) are intended for a set of users with a much higher degree of prior knowledge.

One would assume that increased distance would be commensurately noise-prone, but this is not the case. Every point in the sphere is susceptible to noise. The best defense against noise is the quality of the representational patterns. Strong patterns resist intrusiveness; they displace the potential for undesirable sub-patterns and chaos to enter. Noise indicates how ineffective the representation is in the transference of the “sourceness” of the thing. Noise enters due to lack of quality, pollution from other representations pointing to other sources, lack of prior knowledge, etcetera. Excessive noise can “overcome” a representation to the level that the representation no longer yields accurate or cognitive value; that star has lost its hold on the universe and is adrift. Some models are very distant, yet virtually without noise (a swastika representing fascism), while some models are very near but full of noise (a very poor quality photograph of anything, unless it represents a poor quality photograph).

Therefore, some representations will be far weaker though they are less distant from the source, and vice versa. It is assumed that increased familiarity (such as common usage and thorough knowledge of the interpretative language) will yield a better understanding of the source thing, however, this is not always the case. Gilman Louie stated that, “A tool that presents me with new ways of looking at new data is not nearly as useful as a tool that presents me with new ways of looking at data I have to deal with every day.” Even a radically different way to look at information with which we are very familiar (a distant view) may yield surprising insight into what we had thought we had known before. It is the surprise of the “anti-match,” the joy of discovering the unfamiliar through new representational tools applied to what we thought we have known.

So here is our galaxy: a central source point and all the points that serve as it representational models, all spaced at myriad distances from the center and each other. These representations are undesirably accompanied with their respective noise, in an ellipsoidal construct, at whose edge communicative capability fails. In this galaxy there are only two types of star classes; tier-one, those that point as best they can to the source, and tier-two—those that convey the source things through the reliance on tier-one representations. Why develope the tier-two types? This shall be addressed through our chosen invisible source (profoundness), through a more tangible source (Shakespeare’s poetic conceits); through the tier-one representations (printed text of a particular Shakespeare sonnet), through the tier-two representational (relational models of word types and patterns).
The patterns of poetic construction provide manifold opportunities for investigating its composed language under aspects such as meanings, literacy, and musicality. This can be done informally, or through formal keys, as Harold Bloom provides in his opening sections of *The Best Poems of the English Language*. Bloom distills his exhaustive capability into a brief guide for deciphering the figurative language of a poem according to a concise taxonomy of types (irony, synecdoche, metonymy and metaphor). These figurative devices, in turn, may trigger the reader’s discovery of some pattern (intended by the author, or possibly not) through visual- or audio-representational patterns constructed of symbols. These symbols have no inherent meaning, yet when arranged into decipherable patterns what formidable messages they may convey!

If present, such patterns become “activated” through prior knowledge (formal and experiential) that a viewer brings to the representation of the poem. The source poem, being as it were a conceit within (for our examples) the mind of Shakespeare, is no more. Yet, reading it now, even though we are “as an unperfected actor on the stage” makes one become, in some little corner of their nervous system, like Shakespeare.

All representations fall under Pictorial, Quantitative, Relational or Symbolic structures, or some assemblage of these. Each of these four visualization types can be further divided into “high-constraint” and “low-constraint” versions, yielding eight total structures or patterns. Generally, one underlying structure grows in popularity and utility as a desirable representational type until it becomes something of the communicative standard for the media and message in question. Obviously, visualized literature depends upon symbols in context to yield informativeness and accompanying levels of expressiveness.

In brief, a pictorial high-constraint representation may be a high-resolution image, while a low constraint pictorial representation would be a sketch; a high-constraint quantitative might be a Cartesian matrix, a low constraint, a quantigraph (a device representing a quantity); a high-constraint relational would be a table, spreadsheet, or arrangement of cells, while a low-constraint would simply be nodes connected in a social network diagram with links. Symbols also follow the high/low logic: with high-constraint being elements such as phonograms (our letterform devices, specifically graphemes that stand in for phonemes), as opposed to low-constraint devices such as logos and formal symbols—such as a skull and crossbones. It is worth noting that some elements of our text (question marks, exclamation marks) are low-constraint symbols that carry their own independent meanings. Our focus is on high-constraint symbols, those used primarily for narration and supported through a very simple pattern: a line.

Poetry and prose are the art of the line. This line is then broken, for aesthetic reasons, to enhance its poetic character, or for technical reasons, to fit all the copy upon the page. Therefore, constrained-symbolic language depends upon a relational matrix for its ultimate display (unless it is one very long line of text). If one tightly controls the length of these lines from a schematic point of view the text shifts—by the mere aspect of arrangement—from prose to a kind of poetry.

Language merely made visible does add important intellectual dimensionality. Poems, such as sonnets, can deliver new subtleties and complexities through the visible medium. The rhyme aspect is also a turning point of the line, but this is not always necessary or even desirable as Thomas Campion and many others argued. Some poets (E.E. Cummings) greatly exploit the visual; concrete poetry requires it.

Shakespeare’s conceit, which he formed as a sonnet, is what Shakespeare’s publisher wished to have signified via the medium of letters, these in turn could be rendered through the technology of printing via inked and movable types upon paper. The resulting representation was merely a simple string of symbols; the string being broken into lines. The breaks become part of poetic physics. Here, the poetic physics is a sonnet: ten syllables (in most cases) permitted per line, these lines grouped into three sets of four each (q1, q2, q3) and a couplet (c) of two lines (providing the typically fourteen line example). In this respect the symbol/linear pattern of the poem is contained within a simple high-constraint relational structure: a grid of cells with ten columns and fourteen rows. This is a Shakespearean sonnet from a pure, cold, schematic view.

The representation is a tier-one type: it is as direct as possibilities and convention permit to the conceit of Shakespeare’s intent. Not to distant and not too noisy. However, (at least) three things do provide unwelcome noise in the effectiveness of this sonnet transfer: one is intentional obfuscation on the author’s part, another is the inadequacy of the reader to decipher the poem (the singular lack of linguistic or interpretative skills, etc.), the last being the collective “cultural drift” from the time of publishing until today. It is however, the best we have in raw form, a good tier-one representation.
Tier-two representations may be defined by a number of characteristics. First, they should be understood as more distant from the source that they represent. Factors of accurate traceability take a back seat to cognitive tractability. Tier-two representations will only appeal to users with significant prior-knowledge, or who are trained to specifically understand this new representation. A tier-two representation reveals the nature of its signified thing with forms that are barely, or nothing like the source. A map of the stars is tier-one, a table of their names, brightness, and distance is decidedly tier-two.

For this reason tier-two representational devices depend upon tier-one representations as the “final mile” to the source, just as an airplane gets one to the outskirts of the city with speed (but not accuracy) and a taxi takes one through mid-town with accuracy (but not speed). Familiarization, however, may overcome this, and on the same level, begin the process of turning tier-two representation into tier-one representation.

A third, most critical factor is that tier-one and tier-two representations never share the same basemap (i.e. pictorial, quantitative, relational, or symbolic primary organizational pattern). So if a tier one representation is pictorial, tier-two representations are either quantitative, relational, or symbolic at their heart. In the examples given in this paper, we are building high-constraint relational basemaps that support low-constraint symbols. Text is a composition of high-constraint symbols.

The last factor respecting tier-one representations is particularly revealing. It requires us to return to the galaxy of stars metaphor. Tier-one representations may address singular ideas, or comparative ideas within a collective, however, tier-two representations point out of their galaxy altogether, across a universe of galaxies, they are intrinsically comparative in their nature.

A tier-two representation emerges as a tool to compare tier-one devices to each other. In the fullset of devices shown Shakespeare's collective, his universe of sonnets, can suddenly be seen holistically. Just as a sonnet sequence evokes a theme and a story across the set of poems, so does (in a far more objective, if emotionally-drained way) the meta-visualization of tier-two collections. Each may be read independently, but in total they form a fascinating universe that speaks to the ebb and flow of passions and observations long ago formulated in the genius of Shakespeare. It is worth noting, in passing, that sonnet sequences create characters out of touch with terra firma: this fantasy allows some of the concepts to become readily metaphysical.

Let us return to our tier-two models and add another aspect that often serves as the entire rational for the creation of such representations: new data. When a new field of data becomes available an opportunity arises to provide additional clarity or insight toward the source thing. In many cases this permits the build-out of tier-one representations to a higher order. New data fields provide opportunities for new insights—the goal of finding the unknown from the information one already thought they knew. For our model such a set of data was envisioned, researched, and extracted by Helen Vendler in her book The Art of Shakespeare's Sonnets. Ms. Vendler, through nine years of poetic analysis focused on Shakespeare's sonnets created an ostensibly objective dataset. These she called, Keywords, Defective Keywords, and Couplet Ties. We supported these layers with another series, Personal Pronoun Sets. It is primarily based on these informational types that the tier-two representations displayed here are developed.

NOTES ON HELEN VENDLER'S KEYWORD MODEL

Developing relationships in a set of data, one that inherently dislikes being quantified, poses a problem. A scholarly commentary aids in the process. Helen Vendler's detailed inspections of each of Shakespeare's 154 sonnets in her book The Art of Shakespeare's Sonnets allows for more comprehensive understanding. Vendler suggests that “the density of Shakespeare's sonnet-structure is often best untangled through giving a separate diagram.” Untangling through symbolic distance is precisely the goal of this exercise, on a grander scale. In her commentary, Vendler creates diagrams of sonnet's "ideational" aspects. In the constructs below, important topological ideas serve as a basemap. Working with the sonnet basemap, a sequence of superface layers within which Vendler's observations of fundamental linguistic keys are graphically highlighted come into play, rendering each dense poem new representational forms. All of Vendler's word classifications help us penetrate Shakespeare sonnets. The couplet tie is "a word [and its variants] appearing in the body of the sonnet, which is repeated in the couplet, […] and almost always thematically significant". The keyword, is "a complex
form of repetition, […] it] connect[s the] four units of the sonnet—three quatrains and a couplet—repeating in each of these units. The implementation of root words, labeled as key words by Vendler, is extremely difficult, especially in the couplet, where “closure is necessary.” Thus, she deems these words or word variants the most influential component to a sonnet’s meaning. (These keyword constructs, in our devices, are visually amplified by an additional graphic element of a white highlighting ring). Finally, the “ghosts” or omissions of key words manifest themselves in Vendler’s logic as defective keywords; defined as the “absence of an expected word. [Vendler says] ‘we are meant to notice the thematically relevant word ‘suppressed’ in the quatrains or couplet where we have supposed it would appear.’” Labeling each sonnet in which key words and defective key words appear enables the user to connect sonnets thematically. Similar sonnets begin to, not only linguistically unite beyond their place in numerical sequence and color cycle, but also in terms of graphical patterning. In Vendler’s analysis of Shakespeare’s sonnets, she states: “I aim to disclose some of the sonnet’s significant features—imaginative, structural, semantic, syntactic, phonemic, graphic—and to point out their cooperation in a mimetic aesthetic result. That is, I assume that the features of these poems are designed to cooperate with, reinforce, meaningfully contradict, and play with one another.” Overall, these poems work toward an assumed “aesthetic novelty with respect to lyric tradition” creating something new. Exploiting Vendler’s inventory of keywords, defective keywords, and couplet ties, and conjunction with other informational set allowed for the construction into tier-two devices. These, in turn, allow for new perceptions in the well trodden path of Shakespearean interpretation.

**EARLY DEVELOPMENTS OF TIER-TWO DEVICE**

The initial intent for this project was to establish a means to make Shakespeare’s sonnets visually quantifiable. Looking beyond the basic structure of text, the goal was to move into a diagramatic model. Early iterations were simply word counts of nouns, adjectives, and verbs. Three curves, differing in circumference, color, and length were used to distinguish the word type. In the center of early models colored circles referenced five possible thematic cycles present within each sonnet. These were distinctions of love within Greek philosophy. The fifth theme was the theme of death. The classifications of love used were: agape (purple), philial (blue), erotic (pink) and storge (rust).

Other variations represented the top ten words used in each sonnet. The problem was that the distinction left much of the Shakespearean richness and word play untapped and unprocessed. How could the value of words be scored? What words could be used to encapsulate the thematic material of each poem? One of many of these early models is shown in **figure 7**.

Finding a more objective word identification model from Helen Vendler’s *The Art of Shakespeare’s Sonnets*, opened up a pathway. Using her systemic counting of keywords, etc., in combination with the relational skeleton developed in former models, along with the personal pronoun count began to reveal a pulse to the diagrammic devices. This nearly completed the model. After many additional tweaks and some framework revisions, particularly with color and minor shaping the model was slowly advanced to a device similar to the final ones shown here (**figure 8**).
The final representational device is composed to convey and interrelate, via patterns, eight features. (The specifies of these feature will be discussed presently.) The devices serve especially well as a means to cross-reference the entire sonnet series as a pooled collective. It becomes quickly apparent that some poems seem “calmer” in their constructs even though these might be conveying very complex ideas. The visually complex examples speak to another kind of energy, namely, a very active philosophical, intellectual, or metaphysical subplot to the poem. Other times, the devices seem to reveal natural symmetries or intellectual dichotomies.

Each sonnet is represented within a circular area. The circle is divided into sections for each of the components of the sonnet. In all but one case (sonnet 126) these include 3 quatrains of four lines each, and a couplet of two lines. Therefore the basemap is divided into four pies, three of which occupy approximately 103 degrees of a circle and one that occupies approximately 51.5 degrees. (sonnet 126 is composed of six couplets, twelve 30 degree sections). These are indicated by white breaks, lines, in a gray field (Figure 9).

Part of the joy in reading a sonnet is to uncover its “turn,” a shift in the division, or “argument,” of the poem. In many instances this might occur in the couplet. Sometimes there is more than one turn, the author leading the reader to new insight, or from one viewpoint to another. The turn of the poem in the early stages seemed to have effect upon how keywords, defective keywords, or couplet ties were dispersed in the sonnet, but this was a very soft observation. It made sense as a cross comparative element to take note of these principle turns. Most of the turns are quite apparent, some are not so, all readers (and critics) may not agree with certain decisions here. The turns are represented by a color shift in the base-map from gray to putty color (Figure 10).

The basemap was also marked with a circular, additional division if the the presence of a keyword was evident in the sonnet. Vendler’s analysis and interpretation identified 40 sonnets with keywords. In most cases these keywords are identical, shared in all quatrains and the couplet. Sometimes they are more tenuous, such as an anagram of time/might in sonnet 100. Regardless, the devices are true to Vendler’s research and no variations are taken form her composite list. The sonnets with keywords are identified through the use of the circular white drop-out band (Figure 11).
superfice elements component sets

Positioned upon the superfice are elements that generate insight via their contextual assemblage. Figure 12 is an illustration of the matrix in which these elements may be placed. The matrix is divided into (excepting sonnet 126) fourteen even segments; every segment is of equally increasing dimension, radiating from the center of the circular diagram. Every segment represents one line from the sonnet. The first division is at the twelve o’clock position. The first four segments, running clockwise, represent the first quatrains. The next four, segments five through eight, represent the next quatrains, the next four, nine through twelve, represent the third quatrains. The last two segments, thirteen and fourteen stand in for the sonnet.

Syllable divisions are not represented within the matrix. Instead wherever a Vendler-identified keyword element, defective keyword element, or couplet tie element is referenced within the sonnet an indicator of such is shown. This is also the case with elements within the personal pronoun sets. Therefore, the curved bars, as seen in these tier-two devices are representative of the fact that one of the identified elements is found on that line of the poem.

Our next concern is the concentric circles themselves. These concentric circles, shown in this grid as divided bands (two thin bands form a ring), are used to position the elements according to their type. The first ring is used to position personal pronouns: I, me, my, and mine. The next ring positions personal pronouns: you, thou, thy, thine, thee, and your. The third ring positions: he, his, him, she, hers, and her. If more than one such personal pronoun is used on any one line, the line is split indicating quantity.

Beyond these inner rings is a break separating the Vendler-elements from the personal pronoun elements. These rings, numbers four, five, six, and seven are used to place keywords or broken keywords when they occur within the identified line. Unlike with the pronoun sets, the Vendler-elements simply “add up” from the fourth, if one, to the fifth, if two, etcetera. There is an exception: if the same keyword (say, the word love) occurs twice (or more) in the same line then the ring is split to indicate such multiples. In some cases a plethora of Vendler-elements require indicators outside the grid, as can be seen with couplet ties that exceed that number for the line in question.

Figure 13 shows how a color indicator is used at the center of the tier-two device to indicate what part of the sonnet sequence the sonnet in question falls within. The scholarly consensus (another example of how repetition of opinion trends a thing from the subjective to the objective) applies three main cycles to Shakespeare’s full sonnet sequence. These include: The Fair Youth cycle, the Dark

Figure 14: The color key device representing the cycle within the sonnet sequence

Figure 15: Indicators: for the personal pronoun elements: 1st, 2nd, 3rd rings.
Lady cycle, and the ending pair of sonnets, the Anacreontic Narrative. To add further distinction to Shakespeare’s general thrust of concern within the Fair Youth cycle, two sub-cycles (within Fair Youth) are identified: these are the Procreation cycle at the very beginning, and that interloper, the Rival Poet in the middle of the Fair Youth cycle.

The color code associated with the sonnet numbers within the complete sequence are as follows:

<table>
<thead>
<tr>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pale yellow</td>
<td>Procreation cycle within Fair Youth: 01 through 17</td>
</tr>
<tr>
<td>Pale blue</td>
<td>Fair Youth resumed: 18 through 77</td>
</tr>
<tr>
<td>Medium Tan</td>
<td>Rival Poet intervening Fair Youth: 78 through 86</td>
</tr>
<tr>
<td>Pale blue</td>
<td>Fair Youth resumed: 87 through 126</td>
</tr>
<tr>
<td>Pale Mauve</td>
<td>The Dark Lady Cycle: 127 through 152</td>
</tr>
<tr>
<td>Bright Brick</td>
<td>The Anacreontic Narrative: 153 &amp; 154</td>
</tr>
</tbody>
</table>

These collections are shown in complete sets within this document.

Figures 15, 16, 17, and 18 illustrate what is discussed above as referenced to the grid determining the correct positioning of the elements. One can clearly decipher how the rings support the taxonomy of symbol types. In Figure x black devices are placed within the first three rings to indicate personal pronouns as they relate to their presence within the line specified. Again, split elements indicate multiples of that type of personal pronoun (first, in the first line, second, in the second line, and third, in the third line).

Figure x shows the presence of Keywords as identified by Vendler. Note two things, first, they are in black, and second, they are only present if the white indicator line is also present. Next. Figure x shows the presence of Defective Keywords (so named and identified by Vendler and indicate that the word does not occur in all the quatrains plus the couplet as Keywords do.); these are always shown in gray. In general the textual importance determines how these are arranged when multiples occur within the same line. Again, split elements indicate the same keyword (or defective keyword) occurring on the exact same line.

**Figure 16:** The ring used to reference Keyword indicators as defined by Vendler.

**Figure 17:** The ring used to reference Defective Keyword indicators as defined by Vendler.

**Figure 18:** The ring used to reference Couplet-Tie indicators as defined by Vendler.
The last in this series, Figure x, shows the couplet ties. These are indicated as dots within the relevant lines (and quatrains) and as they are associated with the couplets. In summation these are the eight levels of these tier-two high-constraint relational devices as they apply to Shakespeare's sonnets:

- Basemap: Quatrain and Couplet divisions: by shape
- Basemap: Color indication of sonnet turn: by color
- Basemap: Circular line indicator of Keyword presence: by "break"
- Superfice: Cycle type indicator: by color
- Superfice: Personal Pronoun Set indicators: by elements
- Superfice: Keyword indicators: by elements
- Superfice: Defective Keyword indicators: by elements and value
- Superfice: Couplet Tie indicators: by dot elements

**Observations Concerning the Devices**

If only one sonnet is mapped a general deduction is difficult to make. However, as a series much may be ascertained. The complete set of representations for each of the 154 sonnets is provided in this paper. (See pages 17 through 25) This set is further enhanced through a counting and graphing of the element-counts within each cycle.

This provides an interesting “pulse” to the word-interplay, or lack thereof; as words proceed across sonnets, and sonnets proceed across their sequence. It is easy to see that some cycles, or parts of the cycle, have more of this intensity than others have. We leave it to persons far more versed in Shakespeare's sonnets (or things Shakespearean) to find what they may. In order to initiate this process the next six pages provide minimal commentary, supported with some excerpts from specific authors or anthological sources dealing with Shakespeare's sonnets. These pages have several examples culled from the complete collection (though taken from the same cycle, or part of the cycle).

Having baked this shepherd's pie there comes the desire to taste, and share a bite or two—the real objective however, is to take the wares to market; where those more deserving may reflect upon their potential and eke, yet another tiny morsel out of the banquet which is Shakespeare.
COMPARISONS WITHIN THE PROCREATION CYCLE

It is probably too dangerous to suppose that the collection of visual (tier-two) devices that present us with the high-level view of Shakespeare's sonnet sequence reflect, by their composition, the big themes that underlie the work. And yet, there is something. In each particular cycle there is, of course, an energy of a type - this is why a consensus exists that provides the cycle divisions in the first place.

For comparison, sonnet 5, 15, and 7 are shown as devices here. These reflect a "simple" device (in appearance), a "complex" device and a device of compelling pattern. The basic theme, or what we will call "first observations" is that there does exist something of a quality of voice within the sonnet that their mappings point toward, or reflect.

In sonnet 5, the simplest in the cycle (see page 17 for how the cycle graphs out via "volume" of elements), Vendler opens her comments with, "This beautiful sonnet is the first to exploit the powerful seasonal metaphor." This directly speaks to the idea that the more quite mappings are often metaphorical and narrative.

In sonnet 7, that with pattern, Shakespeare plays with the word look. The pattern is evidenced by the concept of the sun, looking down on man, but ultimately setting, compared to having a son, so that life does not set.

Sonnet 15 scores high for its complexity, Vendler notes that this sonnet employs Shakespeare's "grand macrocosmic scale, one that is more suited to philosophical poetry than to the love-sonnet." This backs, to a degree, an observation seen in other cycles as well, that devices with a very high number of elements trace into philosophical/metaphysical boundaries. Another high volume example, the last in the cycle, number 17 also plays the game of the philosophical. (Again, see page 17 for the graphing.) This poem leads with poise and delicacy to the couplet, which directly informs his beloved that she can "live twice" through her offspring. He thus, most fittingly climaxes the procreation cycle.
Comparisons continuing in the Fair Youth cycle (Part I)

Sonnet 40, 41, and 42 build in element volume. The graph on page 19 shows a pretty wild fluctuation of intensity, but our concern is for this little series of sonnets. These three “betrayal sonnets” deal with a cycle concisely captured in The Arden Shakespeare, beginning with the reference to 40, the text informs, “The speaker loves the young man so much that however much advantage the youth takes of his affection he can do him no wrong; or any wrong he does will be forgiven. Sonnets 41 and 42 enlarge the narrative implications: the youth has betrayed his friend by taking one of the poet’s loves, i.e., Love-objects.”

This is true tragedy, yet as Bernhard Ten Brinks asserted in one of his famous lectures (translated by Julia Franklin),

“We see, then, how it is the greatest masterpieces of the comic Muse that transgress the limits of the comics the spectator does not become too vividly conscious of the painful and hurtful side of the ridiculous material presented to him. It seems clear to us that the question whether a certain failing or certain evil appears ludicrous, depends not only upon the kind and degree of evil and the extent of its influence, but very essentially upon the standpoint of those who happen to be the spectators at the time.”

Ted Brink is referencing Shakespeare’s Comedies here, but the point is parallel: note the closeness of the viewer through the sequence. As the volume of the keyword elements and intensities ratchet up the viewer, that is, you, the reader are brought further away from the direct imagined observation into a philosophical observation. The game, supported through the increased volume of word interplay, and away from “quieter” narrative, shifts us from empathetic spectators to intellectual spectators. The devices reflect this shift in their intensity of elements.
COMPARISONS WITHIN THE RIVAL POET CYCLE

The rival poet group falls within the late middle of the fair youth collection. There are nine in the cycle, sonnet numbers 78 through 86. They are shown as a little collection on page 21 (in the most beloved form of the modernist, a three-by-three construct!)

A challenge of showing the tier-two representations is that, though they are intentionally spatial, they are, as with tier-one, linear in their unfolding. Shakespeare’s sonnets are a sequence even though scholars may debate the ideal sequence. Our devices should be laid out in a line as well, but the dictates of presentation deny this advantage here. The graphical lines associated with the full collection (pages 17 through 25) help to assuage this shortcoming of noise through association.

The graph on page 21 presents the pulse of the rival poets as they are seen through the nine tier-two representations. As one would expect when dealing with a love triangle, there is denseness in the center rings that deal with the personal pronoun sets, particularly so for number 79, which has 27!

Despite some of the relatively high volumes seen in the rival poet cycle, there is not the very high numbers elsewhere, as in the dark lady cycle. Through a comparison of all the devices this becomes evidenced because there is more of a dichotomous nature, which increases the number of keyword elements, but not the philosophical/metaphysical twistings which elevate the numbers to the highest levels in the full sequence.

Vendler notes (while discussing sonnet 78), “Shakespeare excels in a form of verbal emphasis pointing up the conceptual oppositions of his verse. His mind operates consistently on the basis of antithesis.” Sonnet 82, the one selected here has the fewest keyword elements in the cycle. As seems to be the case with other devices with fewer element the author is trying to get across a concept (that the rival poet is messing with his muse!), the argument is complex, the words must be chosen to advance such an argument. The other selected here is 85, it is ornate, rich, and repetitive in an anti-repetitive manner; it is complex and the argument is neither linear nor emotional as much as intellectual.
COMPARISONS CONTINUING IN
THE FAIR YOUTH CYCLE (PART II)

In this culling we again look at our three “types”: a simple device, a device exhibiting pattern, and a complex model (also including a pretty strong pattern). As with a good number of the simpler sort, number 97 deploys a metaphorical reference to nature and the narrative.

The pattern evidenced in the tier-two example, number 88, but not so evidenced when looking at the text is the interplay of the first and second person (except for the two couplet ties it is the personal pronoun set that illuminates this device).

The third, complex example, number 115 is made rich with Vendler’s identified Keyword say/sacred because it is about things the author said respecting his profession of love to the beloved. Again, though, the overt volume of key elements speaks to something of what Bloom calls, “the resonance of the opposite.” Indeed, it is the tension of these opposites, seemingly indicated by our most complex renderings that pre-reveals their enigmatic poise.

115 exhibits both complexity and broken symmetry. This is well felt in the poem, where there is a tension between what the author said previously, then true, to what is being said now, now true; thus making past statements false. But, as Vendler points out, there needs to be a sort of love word that rises above the earlier and now current professions of love, the word is “grow.” (Vendler provides several lines concerning how love best, or burn, or dearer apply, but references the power of using grow/growth in the couplet). The Folger Shakespeare Library sums it this way, “The poet acknowledges that the very fact that his love has grown makes his earlier poems about fullness and constancy of his love into lies.” It appears that the author has gotten over the rival poet interlude. This would make sense, his forgiveness deepens the passion, but this will be tested in the next cycle.

Pages 22 and 23 present the graphing of the volumes present in the devices, note the pulse revealed by the tier-two representations that cannot be seen through the textual, tier-one representations. It is not difficult to follow the building of energy, and then, a fall-off before the Dark Lady cycle about to unfold.
COMPARISONS WITHIN THE DARK LADY CYCLE

The dark lady cycle exhibits a fecundity of passion exactly what one would expect with such a conflicted author, an author who has invested so much in asserting the perfection of his beloved. To “witness” her promiscuity requires a depth of philosophical and metaphysical twists in order to jive with the earlier arguments. In the rival poet cycle, Shakespeare dealt with the anguish of loss through the acts of another. Now he grapples with a yet more keenly-felt loss, his loss of faith in his beloved, and himself. That is what is signified here. The solution, generally, is to turn the judgments back upon himself.

What we've referred to as volumes volley in gyrating crescendos through this cycle. One of the most intense in the entire sonnet series, number 148, presents aggressive escapism and blame on inability to see things as they clearly are. The opening of the sonnet is the warning, “O me!” No fewer letters could prepare us so well. As one might expect, the Keywords, including eye and love, supported by Defective Key Words of true/false and sight, drive the circulating constructs. The agent seems to be tears: tears that obfuscate clear sight, tears the author sheds, and, perhaps, tears of the beloved which further blind the poet.

The graph on pages 24 and 25, in their sheer intensity of rise and falls bear out the wild pulse evidenced by the combined key, defective key, personal pronoun series, and couplet ties volumes. Compare these graphs to all the other cycles.

From the near-silence of sonnet 129, to the explosion which proceeds through the above mentioned 148, to the crescendo with 152 (our graph breaks its boundaries for sonnet 152), we view a kind of math-induced madness.

Sonnet 129 is silent, though, only in its lack of elements as a visceral, metaphorical message-machine it speaks volumes to the warnings of every moralizer, “Oh how you will regret the actions of your passions in the morning!” It is the morning-after lament, every word crafted to the message, a message that builds through linear examples toward collective depth of the argument. The sonnet does not need keywords, et al, it’s argument is too human and grounded, no self-delusions.

Rocketing up to 152, we can see the volume that Vendler expresses, “With this enormously comprehensive poem, the sequence of the dark mistress is brought to an end.” So, though 148 is intense in its volume, 152 raises the bar, the argument is simple, “you are a liar, I am that twenty times more so.” To set this correctly, to argue it within the context of Shakespearean shoots and ladders, requires the textual interplay so adroitly and magnificently carried off here.
**THE ANACREONTICS**

Anacreontic refers to the style of poem that references the Greek poet Anacreon. This, in turn, refers to a seven-syllable epigamic, poetic line; the term points also, as here, to the mythic narrative and subject matter. As Vendler summarizes, “The myth represents a contest of chastity against passion in which passion wins, its heat transferred to the water that quenches it.”²⁶ Booth notes, “The Greek epigram and those of its descendants… all have vague but considerable potential for bawdy anatomical reference.”²⁷ These twinned sonnets are outliers to the others in the sonnet series—perhaps to cool down after the heat of the final dark lady verses, or to generalize the idea that passion cannot be cooled or quenched. Instead, it is merely “transferred” to another place, such as a pool of water, which is a ready metaphor for sexual references as indicated here.

The two last poems are heavily endowed with defective keywords, and 153 has a complete keyword set as well. It is of interest to note that both sonnets are not too dense with personal pronouns, but very rich with couplet ties. The playfulness and figurative twists that Shakespeare derives and lays upon the Cupidic myth can be seen visually dancing within the two diagrams. Shakespeare’s final line of the 154 sonnet sequence, “Love’s fire heats water, water cools not love.” sums up the conclusive pair of sonnets, and the myth, succinctly. This conclusive line is representative of the keywords and defective keywords that Vendler identified: fire, bath, love, and, fire and heat.
Procreation series within Fair youth sequence (sonnet 18 through sonnet 77)
39: 06: COUPLET TIES
   12: PERSONAL PRONOUNS
40: 22: PERSONAL PRONOUNS
41: 05: COUPLET TIES
   23: PERSONAL PRONOUNS
42: 10: COUPLET TIES
   07: KEY WORD ELEMENTS
   35: PERSONAL PRONOUNS
43: 21: COUPLET TIES
   08: KEY WORD ELEMENTS
   17: PERSONAL PRONOUNS
44: 12: PERSONAL PRONOUNS
45: 02: COUPLET TIES
   12: PERSONAL PRONOUNS
46: 18: COUPLET TIES
   14: KEY WORD ELEMENTS
   19: PERSONAL PRONOUNS
47: 14: COUPLET TIES
   11: DEFECTIVE KEY WORD ELEMENTS
   20: PERSONAL PRONOUNS
48: 07: COUPLET TIES
   18: PERSONAL PRONOUNS
49: 06: COUPLET TIES
   17: PERSONAL PRONOUNS
50: 06: COUPLET TIES
   04: KEY WORD ELEMENTS
   16: PERSONAL PRONOUNS
51: 06: COUPLET TIES
   04: KEY WORD ELEMENTS
   02: DEFECTIVE KEY WORD ELEMENTS
   06: PERSONAL PRONOUNS
52: 06: COUPLET TIES
   04: KEY WORD ELEMENTS
   08: PERSONAL PRONOUNS
53: 11: COUPLET TIES
   08: KEY WORD ELEMENTS
   13: PERSONAL PRONOUNS
54: 08: COUPLET TIES
   03: PERSONAL PRONOUNS
55: 06: COUPLET TIES
   04: KEY WORD ELEMENTS
   07: PERSONAL PRONOUNS
56: 13: COUPLET TIES
   06: KEY WORD ELEMENTS
   05: PERSONAL PRONOUNS
57: 06: COUPLET TIES
   04: KEY WORD ELEMENTS
   18: PERSONAL PRONOUNS
58: 02: COUPLET TIES
   22: PERSONAL PRONOUNS
59: 02: COUPLET TIES
   05: PERSONAL PRONOUNS

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Comparing Shakespeare's Sonnets通过关系模型

William Bevington, Piim & Erik Freer

Parsons Journal for Information Mapping
Volume III Issue 3, Fall 2011

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Rival Poet within Fair Youth Sequence (Sonnet 78 Through Sonnet 86)

78:
08: Couplet Ties
08: Personal Pronouns

79:
02: Couplet Ties
27: Personal Pronouns

80:
03: Couplet Ties
19: Personal Pronouns

81:
09: Couplet Ties
16: Personal Pronouns

82:
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09: Personal Pronouns

83:
07: Couplet Ties
20: Personal Pronouns

84:
05: Couplet Ties
16: Personal Pronouns

85:
09: Couplet Ties
07: Defective Key Word Elements
11: Personal Pronouns

86:
04: Couplet Ties
17: Personal Pronouns

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Continuation of Youth Sequence (Sonnet 87 through Sonnet 126)
Comparing Shakespeare’s Sonnets Through Relational Diagram Models

William Bevington, PIIM & Erik Freer

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The Anacreontics (Sonnet 153 through Sonnet 154)

Commas/couplet ties

148: 22: COUPLET TIES
149: 07: COUPLET TIES
150: 07: COUPLET TIES
151: 16: COUPLET TIES
152: 19: COUPLET TIES
153: 19: COUPLET TIES
154: 14: COUPLET TIES

Numbers/key word elements

148: 08: DEFECTIVE KEY WORD ELEMENTS
149: 07: PERSONAL PRONOUNS
150: 29: PERSONAL PRONOUNS
151: 03: DEFECTIVE KEY WORD ELEMENTS
152: 07: DEFECTIVE KEY WORD ELEMENTS
153: 04: KEY WORD ELEMENTS
154: 07: PERSONAL PRONOUNS
10: PERSONAL PRONOUNS

The Diagrams

Four diagrams are shown, each representing a different sonnet. The sonnet numbers are placed at the top of each diagram, and the key word elements and personal pronouns are indicated within the diagrams.

Sonnet 148:
- Eye/love/true/false/see
- Key word elements
- Defective key word elements
- Personal pronouns

Sonnet 149:
- Key word elements
- Defective key word elements
- Personal pronouns

Sonnet 150:
- Personal pronouns

Sonnet 151: (the anacreontics)
- Love

Sonnet 152: (the anacreontics)
- Eye

Sonnet 153: (the anacreontics)
- Love/fire/bath

Sonnet 154: (the anacreontics)
- Fire/fire and heat
William M. Bevington currently serves as Associate Professor of Information Mapping in the School of Art, Media, and Technology at Parsons The New School for Design, The New School, New York. He formerly served as the Executive Director for Parsons Institute of Information Mapping, Chairman of the Communication Design department at Parsons School of Design, and various professorial and instructional roles at his Alma Mater, The Cooper Union for the Advancement of Science and Art. He is an information designer and information theorist specializing in creating tools for the rapid assessment of complex data. His first significant project was the Blackout Procedures Manual for Con Edison in 1983, and the last was a major Geospatial Media Mash-up Tool under U.S. government contract entitled the Geospace and Media-Tool (GMT). Mr. Bevington has developed toolsets for transit systems applications, stock trading applications, and health management tools as a principle designer at Spire Integrated Design, New York. He has lectured worldwide, illustrated Graphic Designers Production Handbook, co-authored Working with Graphic Designers and Designing with Type with Jim Craig. He is also the author of Typography: The Principles, A Basic Guide to Using Type published by The Cooper Union.

Erik M. Freer is an undergraduate student at The New School in the dual degree program pursuing a BFA from Parsons the New School for Design in Communication Design and a BA from Eugene Lang College the New School for the Liberal Arts in Writing. At Parsons his focus is on Information, Print, and Typography and at Lang his focus is on Poetry and Playwriting, with a minor in Japanese. Erik possesses a deep interest in ideas of mapping and the visual representation information. The Comparing Shakespeare’s Sonnet Sequence project featured in this paper was developed as part of an assignment in Topic: Information Design studio course taught by Professor Bevington. In addition to the project images, Erik contributed associated captions and schematic plans, as well as the sections entitled “Helen Vendler’s Keyword Model” and “Developing the relational device.” Erik dedicates his spare time to any and everything cultural and creative he can produce and or experience.

NOTES

1 A close reading is an in-depth analysis of the text, searching for and reflecting on patterns present within the text and then asking questions about the significance of said patterns. Patricia Kai, “How to Do a Close Reading,” Writing Center at Harvard University, http://www.fas.harvard.edu/~wrinc/tr/documents/CloseReading.html (accessed July 20, 2011).

2 The typical Elizabethan use of the sonnet was in a sequence of love poems in the manner of Petrarch. Although each sonnet was an independent poem, partly conventional in content and partly self-revelatory, the sequence had the added interest of providing something of a narrative development. Perhaps the greatest of all sonnet sequences is Shakespeare’s, addressed to a young man and a “dark lady.” In these sonnets the supposed love story is of less interest than the underlying reflections on time and art, growth and decay, and fame and fortune. Encyclopædia Britannica Online, “Sonnet,” 2011, http://www.britannica.com/EBchecked/topic/554519/sonnet (accessed July 20, 2011).


4 From a presentation in the early 2000s by Gilman Louie, former CEO of In-Q-Tel.


8 “Wherein it is demonstratiuely prooued, and by example confirmed, that the English toongwill receiue eight seuerall kinds of numbers, proper to it selfe, which are all in this booke set forth, and were neuer before this time by any man attempted.” Thomas Campion, The Art of English Poesie, http://extra.shu.ac.uk/emls/emls/resour/mirrors/rbear/poesie.html (accessed July 20, 2011).


10 Ibid., xvii. xvii.
11 Ibid., xiv.
12 Ibid., xv.
13 Ibid., xvi.
14 Ibid., xiii.
15 Vendler, The Art of Shakespeare’s Sonnets, 653–656.
16 Vendler, The Art of Shakespeare’s Sonnets, 66.
17 Ibid, 108.
19 Bernhard Ten Brink, Five Lectures on Shakespeare, trans. Julia Franklin (London: George Bell and Sons, 1895), 171.
20 Vendler, The Art of Shakespeare’s Sonnets, 351.
22 Vendler, The Art of Shakespeare’s Sonnets, 484.


26 Ibid, 648.


BIBLIOGRAPHY


Ten Brink, Bernhard. *Five Lectures on Shakespeare*. Translated by Julia Franklin. London: George Bell and Sons, 1895.


**IMAGE REFERENCES**

**FIGURE 1**: Shakespeare Sonnet 18 original 1609 facsimile as included in The Art of Shakespeare’s Sonnets.

**FIGURE 2**: A modern typesetting of Sonnet 18 as interpreted by Helen Vendler in The Art of Shakespeare’s Sonnets.

**FIGURE 4**: Shakespeare Sonnet 152 original 1609 facsimile as included in The Art of Shakespeare’s Sonnets.

**FIGURE 5**: A modern typesetting of Sonnet 152 as interpreted by Helen Vendler in The Art of Shakespeare’s Sonnets.
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<tr>
<th>CLASS AND VARIANT</th>
<th>GENERAL USES</th>
<th>NOTES:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PICTORIAL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semi-constrained</td>
<td>distorted maps, illustrations</td>
<td></td>
</tr>
<tr>
<td>Constrained</td>
<td>satellite imagery, photographs,</td>
<td></td>
</tr>
<tr>
<td><strong>QUANTITATIVE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unconstrained</td>
<td>symbols scaled one to another to reflect quantities</td>
<td></td>
</tr>
<tr>
<td>Constrained</td>
<td>bar charts, line graphs stack graphs</td>
<td></td>
</tr>
<tr>
<td><strong>RELATIONAL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semi-constrained</td>
<td>node-and-link diagrams, networks</td>
<td></td>
</tr>
<tr>
<td>Constrained</td>
<td>spreadsheets, tree maps, tables</td>
<td>lines of text are organized within a relational matrix</td>
</tr>
<tr>
<td><strong>SYMBOLIC</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unconstrained</td>
<td>ideographs, pictographs</td>
<td>symbols representing words or ideas can provide &quot;high-level&quot; view of mor specific language</td>
</tr>
<tr>
<td>Constrained</td>
<td>letters, glyphs, Morse code, braille, binary code</td>
<td>constrained symbols, such as text in alignment, is used for generating visible language</td>
</tr>
</tbody>
</table>