A Cognitive View of Poetic Metaphor in Pandemic Meditations, a Mathematical Visual Poem

Abstract

If you are not familiar with mathematical visual poetry then let me express that it is a poetic genre whereby metaphorical expressions are created within mathematical structures. Within the structure, the poetics are understood by the cross-mapping of numerous conceptual domains including visual, lexical and mathematical. 'Pandemic Meditations', the title for the mathematical visual poem shown below serves as one example for this type of poetic expression. This paper is focused on one particular mathematical visual poetic structure of what I call a "Similar Triangles Poem" or "Proportional Poem". Furthermore, I will discuss how the mathematical poem displays 'poetic metaphor' as defined by the University of California Berkley, cognitive scientist, George Lakoff in his paper, "The Contemporary Theory of Metaphor." Let me mention the intent of this paper is not to explain this poem for explanations of poetry serve only to kill it. Instead, the purpose of this paper is to give one the tools to access similar triangles poems in general, and this expression in particular. An additional benefit is my paper can be used as a template to study all similar triangles visual poems.
A Jury Of 13 Acute Anxiety
In A Shooting Match
(Non-Attached Mind)

A Dark Cloud of 12 Vultures
Encircle The Corpse That My Soul Draggs

eleven plus two = twelve plus one

Pandemic Meditations by Kazmier Maslanka 2020
Inspiration For Pandemic Meditations

I have always had an affinity to eastern wisdom and I have been fortunate enough to have been introduced to a few Korean Seon (Zen) masters. It is their insight that continues to help me traverse the endeavor. I continue to practice meditation which through much effort has kept me sane during the pandemic. More specifically, meditation keeps me grounded in the present moment. When one is in the present moment one can detach from the discontentment that is inherent within the human condition. In these recent days of the COVID-19 pandemic, I have not achieved this state easily. The chaos surrounding the affliction has made my meditation challenging. The poetic expression, 'Pandemic Meditations' was inspired during an anxiety-ridden meditation I experienced. Observing my mind was a trial as the ideas and visual elements seemed to jump about incessantly. The stress of watching the bodies in New York City being stored in refrigerated trucks due to there being nowhere else to put them was extremely disturbing for me. There have been endless news cycles constantly reminding me of my age as well as the volatile populations that remain at risk. The latter, among other issues during this crisis have kept me up at night thinking about family.

During one particular meditation session, thirteen anxieties were spinning around my mind - empty - yet, I was attached such that I could count them. It was a dark space and this is not particularly how I’d like to report meditation. Yet, it provided me an experience where I could see relationships in a way as to point me in the direction of where more practice is needed. I collected my thoughts, arranged, ordered them, and created this expression. While meditation is the most successful way to minimize anxiety, it is in my best interest to not discount my creative process. As a mathematical visual poet, I lowered my anxiety and gained something new about myself through this discipline.

Cognitive Linguistics

A comprehensive study of metaphor is beyond the scope of this paper however, I would like to put forth some initial concepts concerning metaphor. Lakoff states, "The generalization governing poetic metaphorical expressions are not in language but in thought. They are general mappings across conceptual domains".[3] A conceptual domain is any construction of coherent thoughts that can be understood in reference to our experience. While limited, for expediency, you may want to start off by just thinking of a conceptual domain as a mental construction, idea, or concept. We want to talk about poetic metaphor but before we can do this we first need to talk about 'basic' or 'conventional metaphor.' Conventional metaphor is the type of metaphor we use in our normal conversations and must be understood in order study literary metaphor. Basic metaphor can be viewed as a direct one to one mapping across two conceptual domains, the first being the source domain and the second the target domain. We perform on ontological mapping from the source domain to the target domain. That is we understand all the elements of the target domain in terms of what we know about all the elements of the source domain. To better understand these mappings we need a nomenclature to discuss them. Cognitive linguists name the metaphors using the mnemonic, TARGET IS SOURCE. To illuminate how the nomenclature works for analyzing conventional conceptual metaphor, Lakoff describes the process as: "Aspects of one concept, the target, are understood in terms of non-metaphoric aspects of another concept, the source. A metaphor with the name A IS B is a mapping of part of the structure of our knowledge of source domain B onto target domain A [2]." In other words, within conventional metaphor, the target domain is an abstract concept and the source domain is a concrete one. Lakoff gives us the example LOVE AS JOURNEY. In this metaphor, we understand the ontology of love in reference to the ontology of a journey. It is important to note that a metaphorical expression is not a metaphor. In other words, the metaphor is not to be confused with the metaphorical expression. The metaphor is at a superordinate level relative to the metaphorical expression. One metaphor can be thought of as the root of many metaphorical expressions in other words many metaphorical expressions share the same root metaphor. Lakoff states, "If metaphors were merely linguistic expressions then we would expect different linguistic expressions to be different metaphors" [3] When we look at LOVE AS JOURNEY we can see that many metaphorical expressions are built from that single metaphor. Here are some
examples Lakoff gives that use the metaphor, LOVE AS JOURNEY: "We've hit a dead-end street" "We can't turn back now" and "Their marriage is on the rocks". [3] Again, one can see from these expressions that we are understanding the target domain LOVE from what we understand about the source domain, JOURNEYS. There are numerous examples of metaphorical expressions that utilize this metaphor.

**Poetic Metaphor**

Up to this point, we have only talked about conventional metaphors and not addressed 'poetic' or 'novel metaphor.' Lakoff and Turner tell us there are three basic mechanisms for interpreting linguistic expressions as novel metaphor: Extensions of conventional metaphors; Generic-level metaphors; Image metaphors.[3]

What I would like to show is successful similar triangles poems use all three mechanisms within the one construction. As an example, we will analyze "Pandemic Meditations" to illustrate this poetic investigation.

*Extension of conventional* metaphor can be recognized with us noticing an expression that we have never seen before -- or with us feeling an expression we have never felt before. When it comes to *image mapping*, Lakoff gives us an example from Andre Breton wherein a line of his poetry we read, "My wife ... whose waist is an hourglass." This is the superimposition of the image of an hourglass onto the image of a woman's waist by virtue of their common shape. [3] Mark Johnson of the University of Kansas states, "(Image schemas are) the recurring patterns of our sensory-motor experience by means of which we can make sense of that experience and reason about it" [1]

As we will see later, when using a *similar triangles image scheme* we map the target value (importance) of the conceptual domains to the corresponding source value (lengths) in the proportional legs of the triangles. Furthermore, we will map the conceptual domains across each other giving us a poetic expression using this visual scheme related to the analysis of proportions. In a mathematical visual poem, we will always have some imagery (conceptual domains) that we can map to each other or to the lexical or mathematical expressions (conceptual domains). The third mechanism is *generic-level metaphors* which extend to a large array of metaphorical expressions. That said, we will focus on a subset of the generic-level metaphors, the GENERIC IS SPECIFIC metaphor. When we get a *general understanding of* something by merely reading a specific case we are experiencing a GENERIC IS SPECIFIC metaphor. Proverbs operate in this manner because they make specific statements that can be used in numerous 'general' situations. Lakoff and Turner explain: There exists a single generic-level metaphor, GENERIC IS SPECIFIC, which maps a single-level schema onto an indefinitely large number of parallel specific-level schema that all have the same generic-level structure as the source domain schema.[2] It is interesting to note that a pure mathematical equation automatically expresses a generic-level schema in a couple of ways. We see the single equation structure providing numerous applied mathematical specific-level schemas. For instance, in physics, we have the equation for force: F=ma, Distance: d=vt, Ohms law: E=IR and there are many more of these all being specific-level expressions with the same generic-level structure. In addition, we can see in an equation all the variables have to ability to express infinite levels of values. In essence, those values or *levels of importance* in relation to each other is different specific-level schemes expressed in the form/scheme of a general-level equation. At the end of the paper, we will address this metaphor in the context of Pandemic Meditations. Let us see how the other mechanisms function within the context of Pandemic Meditations.

**Similar Triangles Image Schema**

The equation in the image on page two is constructed using a similar triangles image schema. So intrinsically, these poems contain an image schema whereby the structure of a pair of similar triangles is perceived within the metaphorical mapping.

**Visual Mappings**

Due to there being numerous images in a mathematical visual poem we are able to cross 'image map' numerous metaphorical expressions in this structure. Not only can we map them across each other but we can map them to any similar imagery evoked by the mathematical and lexical domains as well. In this expression, you will notice the number 13 is repeated in
numerous ways including the circling letters in the reflecting anagrams. (eleven plus one = twelve plus two) There is a proportional equation, ominous sky, large raven, three skeletons, and the Buddhist concept of a jumping monkey seen among the ‘circling’ image schema.

**Similar Triangles**

Triangles of the same shape but different sizes

\[ \frac{a}{b} = \frac{c}{d} = \frac{f}{e} \]

‘a’ is to ‘b’ as ‘c’ is to ‘d’ as ‘f’ is to ‘e’

Or synonymously speaking

\[ \frac{a}{b} = \frac{d}{e} \]

The Equation Can Be Solved 4 different synonymous ways

\[ a = \frac{bd}{e}, \quad b = \frac{ae}{d}, \quad d = \frac{ea}{b}, \quad e = \frac{db}{a} \]
**Similar Triangles Equation**

Before taking a deeper leap into what I've done here let's examine the following two diagrams using a photo I took at Mission Beach in San Diego, California. The photo can be used as a great example of how to formulate similar triangles or proportional equations.

Notice a man and a palm tree. If I were to give you a tape measure and ask you to tell me how tall the palm tree is would you be able to do it? You can by understanding the relationship between similar triangles.
An interesting factor about similar triangles is that there is a proportional relationship between the sides of the two triangles. In the second diagram, you can see this proportion relationship in that the tree’s height is to its shadow as the man’s height is to his shadow. In algebra, we can set up the equation to express this relationship.

The tree’s height divided by the tree’s shadow is equal to the man’s height divided by his shadow. We can measure both of the shadows and the man’s height, plug them into the equation and solve the equation for the tree’s height. This method will give us the answer to how tall the palm tree is.

\[
\frac{\text{Tree’s Height}}{\text{Tree’s Shadow}} = \frac{\text{Man’s Height}}{\text{Man’s Shadow}}
\]

**Mapping**

'Similar Triangles Poems' or 'Proportional Poems' are one of several mathematical methods that I have used to create poetic structures. What makes this method captivating, is that aspects of this structure lend itself directly to mapping metaphoric expressions across the equal sign of the equation. As we conceptually play with the domains we look for the target domain in reference to the source domain in our desire for understanding.

**The Equation**

Here is the Equation for "Pandemic Meditations" written in the syntax of the poem:

Non-Attached Mind = A Jury of 13 Acute Anxieties in a Shouting Match multiplied by My Corporeal Body and that product is divided by A Dark Cloud of 13 Vultures Encircling The Corpse My Soul Drags

\[
\text{Non-Attached Mind} = \frac{\left( \text{A Jury Of 13 Acute Anxieties In A Shouting Match} \right) \left( \text{My Corporeal Body} \right)}{\text{A Dark Cloud of 13 Vultures Encircling The Corpse My Soul Drags}}
\]
Because proportional poems carry the "image-schema" of similar triangles, they can be read as 'a' is to 'b' as 'd' is to 'e'. The mappings of the target and source can be reversed in such that the structure can be read lexically in 4 different ways. Let's focus on two different ways it can be viewed and then look at four attributes to take into consideration:

The value of NON-ATTACHED MIND IS to the value of A JURY OF 13 ACUTE ANXIETIES IN A SHOUTING MATCH AS the value of MY CORPOREAL BODY IS to the value of A DARK CLOUD OF 13 VULTURES ENCIRCLING THE CORPSE MY SOUL DRAGS.

-or it can be mathematically manipulated again to express the following:

The value of NON-ATTACHED MIND IS to the value of MY CORPOREAL BODY AS the value of A JURY OF 13 ACUTE ANXIETIES IN A SHOUTING MATCH IS to the value of A DARK CLOUD OF 13 VULTURES ENCIRCLING THE CORPSE MY SOUL DRAGS.

**Mappings**

The two mappings written above can be flipped to show 2 additional mappings. They are essentially the same, for the mathematical logic does not change within the mapping yet, the target and source domains are flipped presenting new nuances as we search for meaning in the new configuration. I am fascinated while solving similar triangles equations, for within the numerous ways of solving them, the target and source move around creating new syntax and richer meaning. Sometimes we map across the the divisor as well as the equal sign. We also change meaning by assigning different values or levels of importance to the variable concepts. In mathematics, each variable in an equation contains a value and a unit of measure. In mathematical poetry, each term (conceptual domain) is viewed as a coefficient for the meaning and the context of the term provides a virtual unit. While we usually don’t go to the effort of naming the unit, we find that it appears virtually while finding consistency in the schema. That is, aesthetic value is found as one creates the values and units for the poem as they read it much like finding personal meaning in a traditional lexical poem that was not necessarily written
about you. Therefore, there are multiple mapping present in this semantically dynamic
equation. In addition, there are mappings for the visual poetic elements (imagery) involved
which were discussed above.

Four Attributes
To illustrate the dynamics inherent in these equations, lets view four attributes of the
expression - note that these values vary from zero to infinity and everything in-between. The
math expression is in a dynamic flux while these statements are only snapshots in this semantic
space:

When the value of NON-ATTACHED MIND becomes near infinite the value of A DARK CLOUD
OF 13 VULTURES ENCIRCLING THE CORPSE MY SOUL DRAGS becomes near zero.

When the value of A DARK CLOUD OF 13 VULTURES ENCIRCLING THE CORPSE MY SOUL
DRAGS becomes near infinite then the value of NON-ATTACHED MIND becomes near zero.

When the value of A JURY OF 13 ACUTE ANXIETIES IN A SHOUTING MATCH becomes near
infinite then the value of MY CORPOREAL BODY becomes near zero.

When the value of MY CORPOREAL BODY becomes near infinite then the value of A JURY OF
13 ACUTE ANXIETIES IN A SHOUTING MATCH becomes near zero.

Aesthetics
I would like to note that the aesthetics that I have found within a mathematical visual
proportional poem lie in an alternating cognizance between the two experiences below:
1.) The beauty found in analyzing the lexical and mathematical multiple dynamic cross-domain
mappings inherent in the similar triangles image schema.
2.) The conflation of cognitive and sensorial visual imagery.

Conclusion
While there are many, let's highlight at least one example for each of the 3 mechanisms
of poetic metaphor in relation to the mathematical visual poem, Pandemic Meditations:

1.) When we map the values in the source domains of A DARK CLOUD OF 13
VULTURES ENCIRCLING THE CORPSE MY SOUL DRAGS and MY CORPOREAL BODY to the
target domains of A JURY OF 13 ACUTE ANXIETIES IN A SHOUTING MATCH and NON-
ATTACHED MIND we are performing an example of extended conventional metaphor. The
conventional metaphor used in these expressions is the MIND IS BODY metaphor. These
metaphorical expressions are not conventional in the sense that they are not part of our basic
use of language. As you solve the equation in the numerous ways you read many expressions of
the MIND IS BODY metaphor.

2.) There are numerous image mappings present in this poem but, I would like to focus
a couple. (a) The image schema of the similar triangles mapping one to another is an example
of mapping an image schema on the same schema but a different size. In other words the similar
triangles ensures the image schema is consistent across the expressions. And (b) The image of
the 13 circles moving between the letters of the anagrams to the 13 anxieties and again to the 13
vultures uses the same circling image schema. In addition, the image involving the Buddhist
concept of monkey mind seen as thoughts jumping like a monkey around the 13 circling attacks
of anxiety is another example of image mapping expressed in the poem.

3.) The generic-level metaphor can be realized in this poem by noticing the GENERIC IS
SPECIFIC metaphor existing within the specific-level expression of A DARK CLOUD OF 13
VULTURES ENCIRCLING THE CORPSE MY SOUL DRAGS. Due to the 13 vultures being
symbols of death, this can be understood as not only 13 specific-level omens of death but
countless specific level omens of death that are interchangeable with the 13 mentioned.
Furthermore, I will reiterate the equation structure alone affords numerous values within the
variable terms. This means that the conceptual domains are variable and thus able to express
countless specific-level expressions for the 4 conceptual domains within the equation. For
example: NON-ATTACHED MIND can be expressing a mind of enlightenment or a mind in hell and everything in-between. Of course the proportional schema means that when you change the value (importance) of a conceptual domain one of the other conceptual domains must change importance as well due to the similar triangles schema must be consistent.

[1] Mark Johnson; From perception to meaning: Image schema in cognitive linguistics, Mouton de Gruyter 2005

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