

Variations on a Meme: Thoughts and Responses to Isaac Elishakoff's "Differential Equations of Love and Love of Differential Equations"

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POETRY FOLDER



*Variations on a Meme: Thoughts and Responses to Isaac Elishakoff's
"Differential Equations of Love and Love of Differential Equations"*

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Introduction

When dealing with ideas and concepts, it is of paramount importance to define terms and mark the neighborhood of points these terms are allowed allusive rights and privileges of connotations. One such term is referenced in the title of this folder: 'meme.' And this is not the meme of popular culture but of Richard Dawkins' pondering. In *The Selfish Gene*, Mr. Dawkins put forth his proposal:

We need a name for the new replicator, a noun that conveys the idea of a unit of cultural transmission, or a unit of imitation. . . I hope my classicist friends will forgive me if I abbreviate *mimeme* to meme. [1]

Interesting choice of words, "new replicator," for "a unit of cultural transmission." Professor Elishakoff in his paper referenced in the title is correct when he offers us his "differential equations of love, as first principles of human interrelationship of special kind" [2]. Indeed, I contend that love may be the replicator equation in poetic terms (*id est*, in language) that differential equations can prove, in fact, all human interactions.

So, as I use meme in this introduction, I use it as a cultural touchstone, as mathematical symbols are settled upon over the years and become a shorthand way of expressing a longwinding concept. And as words are settled and then unsettled over the years to become a shorthand way of expressing a longwinded idea.

Professor Elishakoff was intuitive to realize the foundational necessity of differential equations and initial conditions. In poetry, differential equations are set up when a poet uses a metaphor and then "solves" the initial reluctance (on the reader) of yoking or melding two unlike things together.

Love can describe how populations change, how heat moves (a person, so to speak), or how springs vibrate [insert your variables here]. Love is a very usual, common, universal and natural way to describe many things in our world.

And so do differential equations describe how populations change, heat moves, springs vibrate, wine flows, er, I mean fluid flows. Differential equations are THE common, universal, human cultural way to describe the many things in the universe.

Mathematicians liken their equations to expressions of perfect balance. Many have written about how the “layers in equations” represent the equations’ attributes and consequences, not their meanings. For a poet, that is an onion metaphor. And poets see metaphors as equations!

While multiple equations can convey a single concept, metaphors can roam the neighborhood of Love and still not get out of range of the dinner bell. Mathematicians believe a beautiful equation has among its attributes: universality, simplicity, inevitability [it can be proved and it is necessary] and an elemental power.

Hmm, I once read a poem that opened with the lines,

“You are to me unrivaled, an oracle
In tones as old and elemental
as love”

The word choices demonstrate that many poets believe a beautiful poem, like a beautiful equation, dovetails in what attributes are required. ‘Unrivaled’ speaks to universality, ‘oracle’ evokes an inevitability, words from a prophet of God, so to speak, and ‘tones’ are basic and simple, inevitable. And ‘elemental’ speaks for herself.

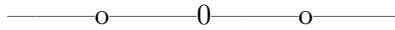
Science is productive when it considers a narrow, specific range of phenomena. Then, the result will be laws that can be described in precise mathematical terms.

I believe poetry proceeds best by considering a narrow range of connections via metaphor (about love, for example) that results in poems that compare and describe in precise terms.

Finally, as the combination of numbers and letters and symbols and place determine the order of understanding and delineation of thought, so too the use of rhetorical devices, punctuation and word denotation and connotation (as well as aural punning with homonyms and visual punning with heteronyms) determine the scope of description and prediction for the poet.

Tropes such as metaphors can leave open a window for the reader to look beyond the poem and draw his or her own associations, or, ‘folding upon’ [what the root sense of ‘implicate’ means].

So Professor Elishakoff suggests we follow Euler in “our quest for a ‘yardstick’ of love.” I agree wholeheartedly and would respectfully add that there are other measurements waiting to be found in the differential equations of Love.



In the following I provide brief comments on the three poems that make up this folder.

LUZ IN HER RED SHIFT

Christian Doppler believed his theory applied to the brightness of stars but he was in error. The poem presents the young mathematician-physicist grappling with the effects of his theory put forth in his lecture, “On the colored light of the binary stars and other stars of the heavens”.

Imagine the three named muses as 70s styled women (‘Beauty spans the gamut/and vibrates true and through’). I see them walking or strutting in assured grace, wearing a brightly color shift that matches their name and flounces around the mid-thigh. Each one representing a tone, a wavelength, a color, an essence. The word ‘gamut’ is intentionally used to encompass all sounds (tones, vibrations) as well as the complete set of color in the spectrum.

Luz is receding from his view and yet he still sees her ‘waving.’ He doesn’t understand. He ‘doesn’t have a clue.’ But then Violet gets his attention and approaches him, ‘her curves coming closer,’ and that discombobulates Doppler. The blueshift puts him in anxiety, Violet is moving toward him, and so he ‘shifts a step or two.’

Flora enters and wants the young man’s attention, and so she ‘slides between the two.’ The ‘two’ representing the location along the light spectrum.

KINSMAN EXPLAINS THE CONSTANT e

It must be beautiful. And we all agree that Leonhard Euler was a beautiful soul with an all-encompassing heart of intellectual curiosity and inventiveness.

I do not correct Euler nor do I contradict him. I am in awe of his formula and see “infinite riches in a little room” every time I revisit his Art.

But what I do attempt to do in this poem is demonstrate what John Dalton, Maria Mitchell, Albert Einstein, Paul Dirac and scores of other women and men have been in awe of: our universe and its workings.

The poem is formatted like the numerical foyer of the Mansion of e : the stanzas and their lines match 2.78281.

Being Catholic [full disclosure] and believing that God is Love, I connect all of what the great equations show as to what animates: ‘Love’s dominion extends/and compounds our interest in all things.’ Poets are not above stooping to a pun to pound the point home.

The soul is female as Wisdom (‘Sophia’) is spoken of in the book of Proverbs, chapter 8. The word choices are intentional in their primary (that ‘singularity’) meaning and their accrued meme meaning throughout the ages.

And ‘charism,’ of course, is Grace.

THE SQUARE ROOT OF -1

The absent minded Mathematician meets the loving but put upon spouse. Imaginary numbers and the ‘I’ sound predominate. The Mathematician would hear “She calls me with her i’s” which immediately causes a reverie within his mind.

Zero is the nothing that creates situations. It is a place setter as the wife demonstrates with her three scenarios of 1) a romantic overture, 2) leading by example [getting in bed] and 3) removing herself from the equation.

And the inference in the second to the last stanza is he did not give her roses but proved roses to be, mathematically not romantically or poetically, “bicuspid tools, numerically pure.”

A cautionary tale for all of us in whatever endeavor we delve: form subsets and understand that not all love is hyperbolic.

References

- [1] Richard Dawkins, *The Selfish Gene*, Oxford University Press, 1976.
- [2] Isaac Elishakoff, “Differential Equations of Love and Love of Differential Equations,” *Journal of Humanistic Mathematics*, Volume 9 Issue 2 (July 2019), pages 226-246. doi:[10.5642/jhummath.201902.15](https://doi.org/10.5642/jhummath.201902.15).

LUZ IN HER RED SHIFT

Luz in her red shift,
 [Violet in the blue]
Beauty spans the gamut
and vibrates true and through.

She waves not so frequent
and visibly askew –
the space she strides expands besides
her scarlet points of view.
Luz is in her red shift

 and Christian doesn't have a clue.

[Luz in her red shift]
 Violet rocks the blue;
 her curves coming closer
 accelerate anew –
 black eyes that dart, darkly flutter
 beguilingly on cue –
 she beckons low in tones that grow

and Doppler shifts a step or two.

Luz waving in her red shift,
 Violet struts about in blue –
 Flora grows green with envy
 and slides between the two.

KINSMAN EXPLAINS THE CONSTANT e

Elegant is a given, as is Beauty
in all times tastefully ornate:

yet shows throughout a restrained grace
in the patterns it puts in place,
in sounds that truly animate
your soul to stir about, to leave
the ease and contours of her room;
to seek the source of that aural perfume
enchained in the enchanting airs

of a pursed O and bilabial b;

to take in and hold, to conceive
concept in the concrete, that pairs
the thread to gold in filigree.
It must be elegant, softly severe,
handsomely wrought by wistful design.
It must be intentionally fraught
with a quick and playful variety,
aimfully aware that infinite thought

formed and informs what the constants define:
an artistry from which all beauty springs.

Love is the natural logarithm,
the irrational constant that never ends.
As light unweaves through a prism
without number, Love's dominion extends
and compounds our interest in all things
seemingly not related and austere.
Love's compass circumscribes entirety
in roots and ratios, and creation sings,

binding us to His charism.

$\sqrt{-1}$

Algebra is real, my love,
as lovely as the tree.
Come join me in my algebra,
my sweet consoling algebra:
equate your sex
to the value of x
and form $\{\text{sub}\}\{\text{sets}\}$ with me.

She could not would not equal that {she said}
and lit honeyed tapers about the bed.

Algebra is true, my love,
as thorough as the bee.
Come join me in my algebra,
my deep illumining algebra:
prove parallels
their postulates,
let's square the n th degree.

She could not nor would not prove that {she said}
and fluffed down pillows about her head.

She calls me with her eyes
and I answer in my mind;
she said to speak in integers, not i 's,
since one square root refines.

Imaginary numbers? Hah! {she said}
and took the luggage from under the bed.

She called me criminal, hypotenuse of mind,
a distinct reprobate of rules:
yet the mere fact is
I split the y -axis
and proved roses bicuspid tools,
numerically pure:
and we will find in the Boolean unwind
the universal cure.

She calls me now with her absence
and I follow with my being:
a vacuum suckling manliness
and manliness agreeing.