

Letter Theory, Creating and Describing Mathematical Axioms of a System for Letters which Creates Most Simplified Language with Provable Sentences.

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abstract:

This paper is a cross field work between theology, linguistics and mathematics (abstract algebra, topology, set theory, fractal geometry and number theory) which tries to establish a letter system to define word meanings by letter meanings and to restart mathematical theology on this planet which we think had been started by Abraham the prophet.

We try to answer this question that can we create a meaning system which every alphabet letter has an specific meaning in, and when we combine them to create words we have a clear system to define every word meaning just by its letters meaning and order of that letters in the word?

We will show that if we have a fractal system we can establish a letter system for it.

The other question which i try to answer is that can we produce a letter system which provide us provable sentences?

Introduction:

This paper is a cross field work between theology, linguistics and mathematics (abstract algebra, topology, set theory, fractal geometry and number theory) which tries to establish a letter system to define word meanings by letter meanings and to restart mathematical theology on this

planet. Before alphabet invention human used to write every word by a specific shape so they needed thousands of shapes to learn writing and reading their inscriptions; Until alphabet was invented and they used just about 20 to 30 letters to write what they wanted.

What we want to do here is exactly something like that, but about meaning system and not about writing system (We already have it by alphabet invention); So the main question is:

Can we create a meaning system which every alphabet letter has an specific meaning in, and when we combine them to create words we have a clear system to define every word meaning just by its letters meaning and order of that letters in the word?

We will show that if we have a fractal system we can establish a letter system for it.

The other question is: Can we produce a letter system which provide us provable sentences?

We introduce some axioms which we need to have a good system and as a result we show that by three axioms we will have a fractal language.

Maybe at first it seems an ambitiously work but i think we already use similar methods to mean words in dictionaries. For example when we want to define apple we say its a red and circle fruit. Circle, red and fruit here are major words we use them lots of places in dictionaries and are major elements however dictionaries use just a method and have not a system to define; But our work searches for a system.

This paper is the first of my works that i publish to show mathematical foundation of Abrahamic relegions and holy books and to start mathematical theology; Maybe its exactly like what Isaac Newton did about physics and i think science need to have mathematical foundations to be understood. Here i just try to show the theory and not the documents, evidence and operations which i have done on holy books.

Importance:

_When we succeed we will not need any dictionary any more, and we just need to know meaning of our letters and the letter system to know every word meaning.

_It will be a useful way to teach robots an expandable language and they will be able to create infinity words and meanings by using the letter system.

_Our conjecture is that holy books have been based on a letter system and by exploring the system we can understand the real meaning of holy books.

_We establish a mathematical way to prove our sentences in our new language.

_This theory can establish mathematical fundamental structures for human sciences like what Sir Isaac Newton did about physics.

When we talk about proofs here, most of time we are talking about pre-proofs (pre-proof/proof=designing/painting).

Inspiration:

These are my questions about holy books which provided me to work on the theory of letters:

How do a prophet understand meaning of a holy text he has received?

How do he prove that he is right and his texts come from holy spirit?

How do he understand meaning of words?

What's meaning of Muqatta'at (Disconnected letters) of quran?

When I was reading arabic quran I found a special relation between its words roots for example:

Quran, 96:4: who taught by the pen.

الذي عَلَّمَ بِالْقَلَمِ

taught root is OLM and pen root is QLM.

Quran, 21:30: were stitched together, then We ripped them apart

كَانَتَا رَتْقًا فَفَتَقْنَاهُمَا

Stitched root is RTQ and ripped root is FTQ.

Probably others refer these words to rhymes and Stylistic device but it made me curious to work on them and made this question for me:

What if there be a relation between letters which we see in these kind of words?

I checked it in so many examples and it made me a conjecture:

Letters have meaning and combining them under a defined system makes words meanings.

After years i found a book that maybe be a meaningless book for most of us. The book (Sepher Yezirah) was about combining letters but strongly was an abstract book and hard to understand for someone who does not know any thing about letter theory. I read there that book belongs to Abraham the prophet so i called the system that i read there Abrahamic letter system.

Reading first sentences of Genesis of Hebrew Bible made me think that hebrew and arabic have had a same language with a same letter system. So i assumed Abrahamic letter system as a arabic letter system and as all Abrahamic books letter system. And it made me this conjecture:

Abraham the prophet was the one who caused coming lots of prophets from his descendant just by establishing and teaching them a letter system to find god and holy spirit meanings. For this conjecture i had another reason from Quran: 2:124

وَإِذْ أَوْحَيْنَا إِلَىٰ إِبْرَاهِيمَ رَبِّهِ بِكَلِمَاتِ فَاتَمَمْنَهُنَّ قَالَ إِنِّي جَاعِلُكَ لِلنَّاسِ إِمَامًا قَالَ وَمِنْ ذُرِّيَّتِي قَالَ لَا يَنَالُ عَهْدِي الظَّالِمِينَ

And when his Lord tried Abraham with words and he fulfilled them, He said: "I will make thee a leader for mankind." Said he: "And of my progeny?" He said: "My covenant does not reach the wrongdoers."

I guess that fulfilling words was the establishing of letters which we talk about.

After years i checked how we could create a letter system to describe how letters work together when we put them in a word; And i called these works Letter Theory. So when we say Letter Theory in this paper, we mean our works to find the system.

Letter theory:

My inspiration comes from hebrew tanakh and specially quran; So like what we do in arabic we assume three letter words (Arabic roots) as main words. Clearly if we assume 22 letters we will have 22^3 main roots.

To start the theory and its fundamental elements i should introduce some definitions.

Kadition: If two arabic root have two and only two same letters with the same order in the word we call them Kad roots for example "RML" and "NML" are kad roots but "RML" and "MRL" are not. We call this relation Kadition.

Clearly kadition is unexpandable for example "RML" and "NML" are kads and "NML" and "NMK" are kads too but "RML" and "NMK" are not kads.

We could call Kadition Neighbourhood.

Relation: Difference of meaning of two root, letter, word or sentences are their relation. This can be a letter, word, sentence or an infinity series of sentences. For example when we say "g" and "h" have "r" relation that

means $g=rh$ (or means $h=rg$) and that means we can change "rh" with every "g" we see in our words or sentences.

Example: "g" is tool of "h" so the relation between them is "tool" and we show it: $g=rh$, $r=tool$

Expandability: For creating words from main parameters we assume expandability for our system so when we say "g" is tool of "h" and "h" is increaser of "w" we say "g" is tool of increaser of "w".

What is here different from mathematics? In letter theory there is no difference between relation and letter and every letter can role as a relation between two or more parameters. For example when in normal mathematics we say number its something different from multiplication but in letter theory relations come from letters; That means numbers are somethings different from operations and functions but in letter theory there is no difference between them and our set is set of everything and we study their relations basically. i mean in mathematics of letters there is no difference between relation and member of a set; members can role as relations.

Now we are in situation that we can introduce our main work in letter theory and that is Letter System.

Letter System: if we have a language that all of its kad words have same relation than their letters, we call the language letter system owner language.

Example: "RML" is tool of "NML" so if it is from a letter theory owner language "r" most be tool of "n" ; clearly that means all of its words with "r" and "n" and just "r" and "n" difference in writing, must have "tool" relation in meaning. We say if a letter like "r" have x relation with a letter like "n" then for every "b" and "c" which come from our letter set we will have: "rbc" is x of "nbc".

Conjecture: Arabic quran have been writed by letter system (I do not say why is this my conjecture in this place of work (I only define the theory here.

For evidence that i have you should check my theologian works.) but it is good for interesters to work on it). By assuming this conjecture we have great course to work on in quran. For example when we have OLM by QLM that means "q" is tool of "o". By writing such relations we could have great incomes.

Kad roots program: Find all relations of quran and other original Abrahamic holy books kad roots.

Theorem: In a letter system owner language if number of letters be "n" so at least "n-1" of letters have meaning.

Proof: We assume that one word has not any meaning, (As up to now we have no reason for meaning of any letter) then we write relation of other letters (they are n-1 letters) with it, clearly their meaning will be:

(their relation).(the meaningless letter) = their relation

We call the meaningless letter identity element.

(You should know we already assumed associative axiom for our system and identity element is the second element that we have there from abstract algebra.)

So if we talk about such languages, We are sure that their letters (except one) will have meaning.

Its too important that we write letter relations only by identity element to avoid memorising too many relations between every two letter (it will be $(n)(n-1)$ relations between letters).

When we focus on identity element we could understand its importance for our system; its an element which we find every letter meaning by finding its relation. we have two option:

- 1.To put our identity element in our letters set
- 2.To assume it in the out of our letters set

If we have a language which use option 2 and we dont know its letters meaning we have a hard work or maybe impossible work to find letters meaning. Because we could not compare our letters with any meaningless letter to find their meaning (Its a good course for interester researchers to assume option 2 and find what happens).

If we remind our first conjecture, one of our goals is to disscus about holy books system.

Now a question:

If arabic of quran has a letter system; Has this system an identity element in its letters set?

I have not any proof but some interesting points show us that probably Abrahamic letter system identity element is the first letter of the set which we call it aleph الف

Some interesting points about aleph:

_Aleph is the first letter.

_Aleph have not any sound (Sound of every alphabet letter comes from its first letter and first letter of aleph have no any sound exactly like its meaning.

_Aleph is mediator letter in Sefer yetzira and we can mean mediator as identity element.

It is so functional for us when we want to work on quran if our conjecture about aleph be true, then we could easily find letter meanings by using kad words which one of them has aleph and another one something else instead of aleph. For example:

امر و حمر

Program: Find relations between aleph and other letters by using kad roots which have aleph difference.

For example find relation of:

امر و حمر

Prime letters or Divisible letters?

We know that we are working on a system with meaningful letters which create meaningful words by combining their meaning; so words meanings are divisible but here is another question:

Are the letters divisible too?

If we assume our letters "Prime letters" and we have not their inverses in our set, then relation of every two letter will be irrational and we need infinity letters and words to define relations. So we are interested in "Divisible letters" or if we set prime ones we need inverses for every letter. We will show that Abraham the prophet has set "Diivisible letters" and invertibility axiom both for his system.

Order of letters in roots:

In Abrahamic letter system different orders of three letter roots make different meanings for example RML is not equal to MRL. Lets check Sepher Yetzieah to find whats different meaning of 6 permutations of three fixed letters in root:

According to Sepher Yetzirah, chapter 2, 29:

IHV means height. IVH means depth. HIV means east. HVI means west. VIH means south. VHI means north.

So in Abrahamic system changing place of second and third letter in a root make the meaning the opposite and we have:

for every X,Y,Z from our letter set: XYZ is opposite of XZY.

proof: for every X,Y,Z from our set we write them by their relation with I,H,V. so we put: X=rl, Y=sH, Z=tV and we will have:

XYZ=rst.IHV=rst.Height

and by the same way: XZY=rst.Depth, YXZ=rst.East, YZX=rst.West,
ZXY=rst.South, ZYX=rst.North

we can put k=rst

So, every one of six permutations of every three letter root is one of three dimension directions multiplied by K(as a fixed meaning).

they will be three opposite pair.

in the proof there is an important point.

srt=str=trs=tsr=rst=rts because we still have not put them in a root and they are just meanings but SRT will not be the same because it has an order plus its letter meanings. Even when we talk about AAA it has 6 directions but because its identity element of the roots set its directions have no meaning too. the readers maybe ask what's difference between ASA and SAA and AAS because they are all s.AAA the answer is that 3D directions have no difference and we just know them by their relationship with other things and they are not absolute but relative.

Letter equations:

As I said one of our goals is to prove our sentences in our letter system owner language and I show that it is possible in Abrahamic letter system. According to Sepher Yetzira if we put inverse letters to our system then we could do it easily. When our sentence is simplified to identity element it shows us that is a true sentence for example:

East of west is center.

Center is the identity element and east is the inverse of west.

Or for example:

Northeast of southwest is the center

Its a true sentence too, because its simplified version is our identity element (center).

In Abrahamic letter system we have these inverses according to Sepher Yetzira

Theorem: by the three axioms every letter could be defined by a finity number of other letters.

Proof: let have "g" as our chosen letter,

now we have an identity element in our set so we can write

$$g=ge$$

and we have inverses in our set so we could write

$$g=gff'$$

and we have associativity so we could write

$$g=(gf)f'$$

and its a new word and a new definition for our main letter

now we could change every letters of our result as same way and expand it to for infinity.

So letters are not atoms and every letter have infinity definitions in our letter system with the three axioms.

We could expand it to have a greater result which will be profitable to know holy books speech system:

Assume that definition of a letter for example k=bit

now change its letters (b.i.t) by their definition (as we proved every letter have infinity definition);

If our new definitions had repetitive letters use your old (primary) definitions for them and if letters were new use what finity definition that you want for

example if you defined $k=\text{bit}$ you should define later "k"s that appear "bit" too.

Continue this algorithm to somewhere we don't see any new letter (simply because our set of letters are finite we will gain this level).

Now cause of our repetitive definition for letters we face a self similar object.

By change our primary definitions for letters we would have infinite fractal shapes for our letters;

So we have a new theorem

Theorem: with the three axioms every letter has infinite fractal shapes of infinite letters.

Adding this theorem to our first conjecture means quran and holy books are self similar texts it could be a functional theorem to find holy books meanings however we don't use this theorem in holy books here and that work is out of our discussion here. But it's a mathematical theorem which shows if quran has a letter system with the three axioms then it is a fractal book and we already know that prophets use similarities to say their thoughts like what Jesus christ used to use and 12 apostles said why do you use complex examples:

Matthew 13:34, KJV: All these things spake Jesus unto the multitude in parables; and without a parable spake he not unto them:

So once again we could empower our conjecture that holy books have been based on letter system. We should add: Fractals are not just language of the nature but language of holy books which prophets say have come from god the creator. As a result let's check some proofs that quran brings:

Proof of hereafter by self-similarity:

If world be a fractal (by Mandelbrot works we have this conjecture)

then we could prove that hereafter comes similar to coming day after night and spring after winter, Cause of self-similarity we should have a same

pattern for the whole world which kill and revive us like earth in winter and spring so we have this in our fractalist quran:

Quran,19:30:

He brings forth the living from the dead, and brings forth the dead from the living, and He gives life to the earth after its death; and thus will you be brought forth

Quran, 45:5:

And in the alternation of night and day, and in what God sends down from the sky of provision and gives life thereby to the earth after its death, and in the circulation of the winds are proofs for people who reason.

How to establish a letter system on a fractal set (whether be a shape or language or something else):

Whether holy texts have letter system or no, we can establish a letter system on every fractal existence. In other words every fractal system is a letter system. Every fractal existence have two sets: 1: set of primary elements 2: set of relations (most of time this set have just one member)

By multiplicating set of relations on primary elements we create submembers set which are similar to primary set.

Now assume our primary set primary alphabet members and the relations set secondary alphabet members, by writing them near each other in a word we will have a letter system.

For example:

Assume that set of [father, mother, children] be similar to set of [farmer, field, tree] it means: if father.s=mother and father.m=children then: farmer.s=field and farmer.m=tree

and we have father.r=farmer

Then we can call relation of these two sets "r" because relation of members are fixed as "r" (because these two set are fractals) then we can call the second set [rfather, rmother, rchildren].

So if we have two similar sets we could create a letter system for them.

(I should add that its clear that prophets have used this method (fractalism) to write their holy books for example we have:

Matthew 13:34, KJV: All these things spake Jesus unto the multitude in parables; and without a parable spake he not unto them.

and also in Quran 3:7:

He it is that sent down upon thee the Writ; among it are explicit proofs: they are the foundation of the Writ; and others are ambiguous.

Then if we call the first set [a, sa, ma] the second will be [ra, rsa, rma].

Do not forget that set of relations must be from our main set (our alphabet set); Without this, we can not establish a letter system on our fractal system and our fractal system must have this axiom to be convertible to a letter system. In other fractals we usually know, relation (expander element) is not from the main set but in fractals which we can establish a letter system for, "r" must come from primary set and every letter must can role as a expander element. So if we show that holy books sentences:

1: Are dividable to similar sets

2: Relations between those sets come from elements of the main set

Then we can establish a letter system for them even if we have not any letter system for them up to now.

These two are necessity and sufficiency conditions for have a letter system in holy books. We already know that the first condition is ok in holy books and the condition we must search about it and find it is the second.

Do not forget that in three letter roots the second condition comes twice;

one time makes the root a two letter word and the second time makes it a three letter root.

Program: Classify whole of holy texts under a letter system after describing their pattern of fractalism.

We should show that holy books (like quran) have a primary set and all of their sentences comes from this set or an specific relation multiplies this set (r.Set) and show that "r" comes from the set. this program is something that i have seen it and work on it and is most important program that theology should follow. Its logical and mathematical theology and i have evidences that the set works like this and we have a letter system in quran but i do not show my evidence here because its just its mathematics and i think the future of theology should be just mathematical if what i say be true. Do not forget there is two thing:

- 1.Quran has a letter system
- 2.Quran has expanded itself sentences by a primary set

And the evidences of these two is in my hand. (For option1 i showed in this article that if option2 be true, then we will have option1 automatically or manually. So i just should show in another article(s) that option2 is true and then it will be proof of 1 and 2.)

What we should add is that letter systems probably are most complete forms of fractals that we know; Most of time fractals have just one relation to expand but letter system create more relations by its primary set of letters and letters role as relations in every letter system.

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