# **Evolution Through Quantization**

August 24th, 2015 onwards and before.

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#### Abstract

In this research investigation the authors shed light on a novel aspect called *QuantizedEvolution*.

#### **Theory I**

One can consider the Sequence of Primes In Higher Spaces (of say order N) [1], [2], arranged in an ascending order and can find the bounds along this sequence of a given specific order such that, on the left of this bound there exists a completely perfect Integrally de-magnified (contracted, i.e., multiples of 1/n, where n=2 or 3 or 4or etc,.) Universe In Parallel(Sub-Set) of this considered sequence Set. This can be called as 'Evolution Quantization'. By 'Universe In Parallel', we mean a sub-set belonging to a Sequence Of Primes of Order less than (N) that of a set belonging to a Sequence Of Primes Of Order, say, N such that the set is gotten by considering magnification of the sub-set by some integral number. Simply put, it is  $\{p_i\}$  for the given set  $\{p_{i+1}\}$  or rather in a generic form, it is any  $\{p_s\}$  for the given set  $\{p_r\}$  where s < r. For example one can do so using the following equation [3]:

# Formula For Sequence Of Primes Of any R<sup>th</sup> Order Sequence Of Primes

One can also note that the Sequence Of Primes Of any R<sup>th</sup> Order Sequence Of Primes can be gotten using the following formula which was constructed using observation.

$$\{p_{i+1}\} = \sum_{k=j+1}^{\infty} \left\{ \{p_i(k)\} \{p_i\} - \sum_{j=1}^{\infty} p_i(j) \right\}$$
(1)

where  $p_i(j)$  represents the j<sup>th</sup> element of the i<sup>th</sup> Order Dimension (Space) Sequence Of Primes.

As we have justnoted that since Prime Sequences of any Order Spacehave bounds in them, we should note that if we consider any aspect's Universal Natural Recursion Scheme [3] of concern and slate it in the Prime Metric (of appropriate Higher Order Space), we cannot that such bounds are imposed on the Hyper-Primality Set (see authors research papers on '*Hyper-Primality Set*  *Of Any Set*' at <u>www.vixra.org</u> in the General Mathematics category at www.vixra.org/author/ramesh\_chandra\_bagadi) of the Universal Natural Recursion Schemeof concern in accordance with the bounds in the PrimeSequences of the concerned (Higher) Order Space. And hence the evolution [4] scheme is quantized in this fashion.

#### **Theory II**

For example, if we consider any set 'S', we can note that, we can categorize this set as the union of many sub-sets of 'S' such that each such sub-set has all its elements belonging to a Sequence of Primes of certain distinct order space. Furthermore, we can arrange the elements of each such sub-set in an increasing order. Also, one can note that such sub-sets may be discontinuous when compared with their parent Prime Metric Bases of the concerned (Higher) Order Space. For each of the aforementioned discontinuous sub-sets {when they are compared with their parent Prime Metric Bases (Sequence Of Primes) of the concerned (Higher) Order Space}, we can find a non-discontinuous {when they are compared with their parent Prime Metric Bases (Sequence Of Primes) of the concerned (Higher) Order Space} Universe In Parallel Sub-Set of these discontinuous sub-set in some lower (and/ or higher) Sequence Of Primes Of Some Higher Order Space. The advantage of doing this is in this continuous state we can simply add its next element characteristic of the sub-set sequence(belonging to a Sequence of Primes of certain appropriate distinct order space) to this thusly formed sub-set when we consider one step evolution. We now again re-transform this sub-set back to its original Sequence Of Primes Of Certain Order Space basis in which it was discontinuous. Now, using the aforementioned 'Evolution Quantization' constraint we categorically mark bounds in such sub-sets such that on the left of this bound there exists a completely perfect Integrally de-magnified (contracted, i.e., multiples of 1/n, where n=2 or 3 or 4or etc,.) Universe In Parallel(Sub-Set) of suchSub-Sets. Now, when we consider one step evolution of each of such sub-sets, we basically add the next element characteristic of the sub-set sequence (belonging to a Sequence of Primes of certain appropriate distinct order space) to the sub-set.

#### **Theory III**

One can note that '*Evolution*' can also be considered in the following fashion for a system that is weakly interacting. By weak interaction, we mean the gradient function of the 'Recursional Field Intensity Strength Function' (that is a unique characteristic value for any distinct space-time co-ordinate of concern within the bounds of the space-time co-ordinates of the system of concern) of the system that drives the self-evolution of the system. By 'Recursional Field Intensity Strength Function' we mean the distribution function of the Recursion Schemes{central asymmetric wave (with prime [of specific order of concern of Sequence of Primes] magnitudes for the crest and trough) property}of the spread span of the system of concern considered along the Prime Metric averaged with respect to space and time (and also we can consider the observers Local Human Collective Consciousness as well observed at any point of concern).

Now, for example, consideringany set {*S*} of concernsuch that  $\{S\} = \{{}^{1}p_{5}\gamma_{1}, {}^{2}p_{2}\gamma_{2}, {}^{5}p_{1}\gamma_{3}, {}^{3}p_{2}\gamma_{4}, {}^{1}p_{3}\gamma_{5}, {}^{3}p_{1}\gamma_{6}, {}^{4}p_{5}\gamma_{7}\}$ 

where  ${}^{k}p_{i}\gamma_{j}$  denotes that it is  $j^{th}$  element of the set  $\{S\}$  which also belongs as the  $k^{th}$  element of the  $i^{th}$  Order Sequence Of Primes when the elements of this  $i^{th}$  OrderSequence Of Primes are slated in an increasing order along the Prime Metric Bases, characteristic of the  $i^{th}$  Order Sequence Of Primes.

We can also write the set  $\{S\}$  as

 $\{S\} = \{\{1^{p_5}\gamma_1, {}^{4}p_5\gamma_7\} \cup \{1^{p_3}\gamma_5\} \cup \{2^{p_2}\gamma_2, {}^{3}p_2\gamma_4\} \cup \{5^{p_1}\gamma_3, {}^{3}p_1\gamma_6\}\}$ 

Now, one can note that the Set  $\{S\}$  permeates in the Recursion Field Intensity Strength Function given by say,  $\alpha \leftrightarrow 1 \leftrightarrow \beta$  and therefore the Quantized Incremental Energy (Least Count) of this Recursion Scheme, say  $L_R$  imposes a constraint on the evolutionary growth of the set  $\{S\}$  for the next instant. That is, only one among the sub-set sequences listed above, each belonging to a specific distinct order of Sequence Of Primes whose (the sub-set's) Energy Quantization Scheme along the corresponding respective Prime Metric (characteristic of the specific distinct order of Sequence Of Primes of concern) during Evolutionary Growth Scheme will grow whose such necessary needed energy to grow is less than or equal to  $L_R$ . However, one should note that constraints imposed by [4] must be taken care of here. Also, [5] can also be used for simplifying the afore-detailed analysis to a great extent.

## References

1.http://www.vixra.org/abs/1502.0100'ThePrime Sequence Generating Algorithm'.

2.http://www.vixra.org/abs/1509.0291'The Prime Sequence's (Of Higher Order Space's) Generating Algorithm'.

3.http://www.vixra.org/abs/1510.0006<sup>•</sup>Universal Natural Recursion Schemes Of R<sup>th</sup> Order Space Prime Sequence's (Of Higher Order Space's) Generating Algorithm<sup>•</sup>.

4.http://www.vixra.org/abs/1510.0030 'Universal One Step Natural Evolution And/ Or Growth Scheme Of Any Set Of Concern And Consequential Evolution Quantization Based Recursion Scheme Characteristically Representing Such Aforementioned Evolution And/ Or Growth'.

5.http://www.vixra.org/abs/1510.0091'Recursive Consecutive Element Differential Of Prime Sequence (And/ Or Prime Sequences In Higher Order Spaces) Based Instantaneous Cumulative Imaging Of Any Set Of Concern'.

## **Acknowledgements**

The author would like to express his deepest gratitude to all the members of his loving family, respectable teachers, en-dear-able friends, inspiring Social Figures, highly esteemed Professors, reverence deserving Deities that have deeply contributed in the formation of the necessary scientific temperament and the social and personal outlook of the author that has resulted in the conception, preparation and authoring of this research manuscript document.

## Tribute

The author pays his sincere tribute all those dedicated and sincere folk of academia, industry and elsewhere who have sacrificed a lot their structured leisure time and have painstakingly authored treatises on Science, Engineering, Mathematics, Art and Philosophycovering all the developments from time immemorial until then, in their supreme works. It is standing on such treasure of foundation of knowledge, aided with an iota of personal god-gifted creativity that the author bases his foray of wild excursions into the understanding of natural phenomenon and forms new premises and scientifically surmises plausible laws. The author strongly reiterates his sense of gratitude and infinite indebtedness to all such '<u>PhilosophicalStatesmen</u>' of personal librarians of Science, Art, Mathematics and Philosophy.

### Note

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