

New Concept of Space-time with Mathematical  
Measurements derived from the Holy Quran  
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## Section 1: Print Section

### 1.1 Summary

The main objective of this research is to present new concept of space-time through the expansion of the universe, with mathematical measurements (accumulated figures), based on a hypothesis derived from the Holy Quran, verse number 25 Alkahf Sura translated as “*They stayed in their Cave Three hundred years, and Add nine*” (ITANI). The story behind this holy verse came in verses number 9, 10, 11 and 12 in the same Sura about righteous youths escaped from their evil governor to a cave where they stayed there for a number of years indicated in this verse. We interpreted this verse in our previous paper on the construction of mathematical Hijri calendar as every 309 lunar years equal exactly 300 solar years, without any decimal point, and proved it in that paper, (Abuelyamen). In another research paper we used the same methodology to construct mathematical solar calendar. From the outcomes of the second paper we constructed the space-time measurements in this paper with the same methodology as for the two papers (Abuelyamen). The main findings of this research are the production of mathematical measurements for space-time, from the beginning of the least attainable scale of time to different stages of the expansion of the universe. Other three important findings are: first, identification of theoretical scale of time and length that is far smaller than Planck’s time and length, the famous known lowest wall, (wiki/Planck-time); second, development of some theories which would help in solving problems encountered with other physical theories specially the theory of everything; third, from the simulation we drew between our findings and other related verses in the Holly Quran, as well as scientific findings in this respect, we found that they are more or less consistent, a case which supports our findings.

#### 1.1.1. Summary of the Methodology

The Reference’s Date/time we assigned for this work was 8/6/2024, 18:18:29 GMT, the starting date of this research, relative to the last total eclipse date/time, 8/4/2024–18:18:29 GMT, which preceded this date by two months. According to our Mathematical Natural Solar Calendar date, the eclipse date was before the Gregorian date and time by two days, so the reference’s date/time according to the eclipse and the Mathematical Solar Calendar date would be 6/4/2024 –18:18:29. Because no information was available on the eclipse time after the second’s scale of time, we started our measurements from the lowest attained scale of time from the origin of the reference’s date/time at the beginning of the Big Band up to millisecond. As for the scope of scales of time, because the lowest defined scale is Zeptoseconds we defined scales lower than Zeptoseconds as NX. Zeptoseconds where N stands for 1 and over.

The basic operations used in the methodology are: first, to break down the monthly standard accumulated figure that obtained from the second previous paper to the smallest possible scale of

time; second, to accumulate the accumulated figure of the lowest scale of date/time in ascending order for different upper scales.

### **1.1.2. Summary of results**

The first observation in results is that the general structure of these figures simulates the Big Bang theory of the expansion of the universe. We present here a sample of these figures for 3 groups of periods from the starting of the Big Bang up to the reference's date/time as follows:

Groups 1: From the zero point of space-time to the first smallest attained scale of time at the first day of reference time's location (X95.Zeptoseconds), to the 1000<sup>th</sup> subunit of this scale.

Group 2: From the first millisecond's subunit to the 1000<sup>th</sup> of milliseconds' subunit.

Group 3: From the first second of the reference date/time to the reference time millennium date.

Figure 1, Figure 2, and Table 1 at the bottom of this part present the accumulated figures of those periods. As shown in Figure 1, in group 1, the smallest attained scale of time in space-time after zero found to be X95.Zeptosecond, with its first accumulated figure subunit equals 1.62591E-307; and in group 2, the millisecond scales of time ranges between 1.61128E-07 and 1.62591E-07 accumulated figures. In group 3 the upper scales of time, from seconds to millennium scale their accumulated figures range between 4.715140E-06 for the second scale up to 20250 for millennium scale.

## **1.3. Discussion**

### **1.3.1. Introduction**

In this part of the section we are going to discuss some of the outcomes of this paper and its relationships with other verses in the Holy Quran and current researches findings in this respect. Other outcomes would be discussed in the online Discussion Supplementary Section. The important two discoveries in our first research in this field that encouraged us to go ahead with this research are: first, the précised relationships between 309 lunar years and 300 solar years; second, the circular replication of time each 309 lunar years and 300 solar years. The major new finding in the research is the measurements of locations' contents and their rates of change by space-time through the expansion of the universe. Other findings were development of universal constants, compared to the present scientific constants. Finally a new theoretical concept was developed on the most controversial phenomenon in science (the dark matter). The findings of this paper support in general the theory of the Big Bang expansion and contraction of the universe, other outcomes in this regard included development of theories regarding the controversial issues in this theory, such as the singularity of the beginning of the Big Bang and the situation before this point, the black holes and so on. The source in this regard was obtained from Hawking's paper, the Theory of Everything (Hawking).

### **1.3.2. The Concept of Infinity in Space-Time**

We start the discussion of this section by the definition of the concept of infinity in space-time; this is because infinity is a major issue that not yet established to fit with singularities, dimensions and borders of the universe. In addition to that, some scientific theories stuck with the lack of justification validity when infinity is considered. The famous theory of infinity, ‘The Sum over Histories Theory’ developed by Feynman, which describes the history of path of particle from point A to point B probabilities of infinite number of paths, 5. But as reported by Hawking, for time a mathematical concept could be used to avoid the technical difficulties with Feynman’s sum over histories. He added that “mathematically, imaginary time is real time expressed in imaginary numbers”. Generally speaking, infinity is defined as something which is boundless, limitless or endless; in other words without dimension. On the other hand the definition of a dimension is that it is a real or imagined line that marks the edge or limit of something”. So, the two definitions together encompass any real or imagined point. According to the mathematical theory, zero is the center of infinity in any location and it would take any place in infinity. On the base of the above definitions, we define infinity in space time as a spherical media continuously expanding, whose center could take place anywhere within it with imaginary properties, such as infinitesimal center, infinitesimal zero, infinitesimal dimensions... etcetera; all these properties would take place anywhere in this media. However, for the purpose of clarification we describe the space time phenomenon in the real part of infinity with real boundaries representing imaginary properties of infinity that would take place from anywhere within it.

### 1.3.3. The Big Bang

#### 1.3.3.1 The Explosion, Expansion and Contraction

The first result of this research is that it supports the Big Bang Theory on the explosion and expansion and contraction of the universe, and provides measurements for it by the produced accumulated figures, starting from the lowest attainable fraction of accumulated figure before the explosion point, up to the millennium accumulated figure of reference’s date/time. In the Summary of Presentation part we showed a sample of these figures for three groups of space-time across the universe expansion. The subsequent samples of accumulated figures towards higher scales of time, which include different aggregate scales of space time up to the millennium scale, were presented in the Table and Graphs Supplementary Section. The explosion and expansion issues in this respect was simulated by the accumulation process and by different verses from the Holly Quran, for example, with respect to explosion, the verse number 1, Alfajr Sura translated as -“*By the dawn and the 10 nights*”, which means that the Almighty Allah swore by the dawn and the ten nights; Ismail in his book ‘The Seven Heavens, in Arabic language translated “*The dawn*” to mean the ‘explosion’ (Ismail). In fact, the Arabic translation of the word ‘dawn’ has two meanings: one, the instant appearance of the sun in the morning; and the other, the explosion. So, according to Ismail, this verse interpreted to mean explosion, and he added that the ten nights refers to 10 types rather 10 days. He related this verse with other verses from the Holly Quran, for example, the verse 12, Fussilat Sura, translated as: “*So he completed them **as seven heavens in two days**, and He assigned to each universe its low; “And We decorated the lower universe with lamps and for protection”; “That is the design of Almighty the all knowing”*. The Verse 12, At - Talaq Sura in the Holly Quran translated as “*Allah is He WHO created **seven heavens, and the like of earth**. The command descent through them so that you may know that Allah is capable of everything and that Allah encompasses everything in knowledge*”. The verse number 9, Fussilat Sura, translated as: “*Say, ‘Do you reject the One who **created the earth in two days**?’*”. The verse number 4, Sajdah Sura translated as:

*“Allah is He who **created the heavens and the earth and everything between them in six days**, and then established Himself on the throne.... ”.* The verse number 10, Fussilat Sura, translated as: *“He placed stabilizers over it; and blessed it; and **planned its provisions in four days**, equally to the seekers”.* What these verses indicate: First of all, to express the days by types itself goes online with the theory of space-time and with our accumulated figures as measurement of space-time. Second the clarification of Ismail’s rationality of his classification of the 10 types mentioned in the above verses is as follows:

1. The creation of seven heavens in two days, interpenetrated as two statuses or types as follows:
  - a. First, the lower universe, which decorated with lamps (stars) is the first type
  - b. second, the other universes’ skies, which were not decorated is the second type
2. The creation of earth in two days interpreted as the same two types of the heavens as illustrated in the verse above by saying ‘*the like*’ (two types).
3. The creation of earth and the heavens in six days indicates the summation of all types of earths and heavens as follows:
  - a. First, the earth type versus the heavens type (two types).
  - b. Second, the lower sky type versus other upper ones type (two types).
  - c. Third, our earth types versus other earths alike the upper heavens type (two types).
  - d. Total (six types)
4. To complete it to be 10 types in the fifth verse, what was meant by planning the earth’s provisions in four days, Ismail, interpreted it as the four types of forces, which are the forces that the theory of everything was meant to link between them, as we will see in the Theory of Everything part.

Ismail supported his interpretation by the verse number 82, Ya-Seen Sura in the Holly Quran translated as *“His command, when He wills a thing, is to say to it “Be”, and it becomes to be”.* So, He could have said to all these astronauts “Be”, and they come to be.

With respect to expansion the verse number 47 ADH-Dhariyat Sura translated as *“We constructed the universe in power and we are expanding it”*, indicated directly that the universe is expanding. According to the accumulated figures they would provide measurements for the expansion’s locations and time by assigning specific accumulated figure for each incident in each location and its rate of growth through time. These figures would start with the smallest attainable accumulated figure for each incident, and would be accumulated spherically with the same value through the expansion path, from the starting point, up to the stage where individual properties would start and would break the spherical symmetry. This system would continue up to the stage of the earth life where living creatures would have individual accumulated figures. As for the contraction of the universe, when the expansion ceased as black hole at any point of infinity due to a specific load of accumulated figure, the universe would start contracting. According to our accumulated figures and our definition of infinity, the observable universe arrows could be directed backward down to its explosion point passing through the earth stage. The contraction stage is indicated in the Holly Quran by the verse number 104; Al-Anbiya Sura translated as *“On the day when We fold the heavens, like the folding of a book. Just **as We began the first creation we will repeat it** ---”*. This would be done with the exception of socioeconomic and religious deeds’ accumulated figures of dead human beings, and accumulated figures of other dead living creatures at the earth stage. With respect to individuality characteristics of human being’s deeds and other creatures, according to our infinity properties definition that all

infinity properties could start from anywhere in infinity, the accumulated figures of creatures with individual properties and that of human being's deeds would be registered in infinity. For the human being properties these would be presented to mankind at the virtual expanding stage, which we are going to discuss in the following part. This case simulate what indicated in the Holly Quran that the deeds of human being and whatever they do would be kept in book, as came in the verse number 12, Ya-Seen Sura translated as *"It is We who revive the dead; and We write down what they have forwarded and their traces. We have tallied all things in a Clear Record"*.

#### **1.3.4. The Pre Big Bang to the Earth Virtual Expansion Stages:**

Before reaching the explosion point, as we indicated above, the contraction would pass through the earth's stage, where the accumulated figures of creatures with individual properties and that of human being's deeds of those who would die at this stage, would also be added to a book as for those at the beginning of contraction point; we are going to speak in detail about this stage in the Analysis Supplementary Section. According to our space-time process, after the contraction of the universe to the starting point of the Big Bang explosion, the universe would start expanding in the opposite direction with negative values of the same positive values of accumulated figures; so, we call this stage pre Big Bang expansion, which could also be called virtual universe expansion. The virtual universe would consist of negative accumulated figures expanding negatively upward in ascending order of the positive figures. Accordingly, at the earth virtual stage, which we call the earth's virtual life; all accumulated figures would be the same as that at the positive expansion excluding the added individual accumulated figures of human being's deeds and living creatures and which stored in infinity. According to our infinity properties definition, the deeds human accumulated figures would be linked to the virtual life stage for each individual and would be presented to him. The virtual expansion in this stage, simulates the day of recompense, which the Almighty Allah revealed in verse number 4, Yunus Sura, and verse number 94, Al-an' am Sura, translates as *"To Him is your return altogether"* and *"You have come to Us individually just as We created you the first time, leaving behind you everything We gave you --"*. In this day the accommodation of those who are miserable would be in fire; and those who are happy in paradise as translated in the verse number 106: *"As for those who are miserable, they will be in the fire. They will have therein sighing and wailing"*. The absolute accumulated figures in this life would be the same as the real life, which indicate the same features as the real life, but with different test, abundance and easy access to provision as revealed in verse number 25, Elbagara Sura: *"And give good news to those who believes and do righteous deeds, that they will have gardens beneath which rivers flow. Whenever they are provided with fruit there from as sustenance they will say 'This is what we were provided it before' and they will be given the like of it"*; 'the like of it' hear simulates the first life features represented by the positive accumulated figures versus the second life with the same features as the first life, but with different characteristics that had not being practiced in the first life. The period of this life as indicated in the Holly Quran for both believers and disbelievers would be as long as the period of the expansion of the universe, according to the flowing two verses from HUD Sura:

- 107: *“Remaining therein for as long as heavens and the earth endure, except as your Lord wills. Your Lord is doer whatever He wills.”*
- 108: *“And as for those who are happy, they will be in paradise, remaining therein for as long as heavens and the earth endure except as your Lord wills – a reward without end.”*

As for other individual living creatures their record would be gathered to the Almighty Allah as indicated in the verse number 38, al-An’am Sura translated as: *“There is no animal in the land not bird flying with its wings but are communities like you. We neglected nothing in the scripture. Then to their Lord they will be gathered”*

This is the last information from the Holy Quran on the fate of the universe; what will happen after that is not known either by science or from religious information. With respect to our phenomenon of the universe expansion we are going to explain that in the following part. More information about the individual properties would be presented in the individuality part in Section 3, the Analysis Supplementary Section

### ***1.3.5. The End of Virtual Expansion Stage***

As indicated above, the limit of the virtual expansion, or even that of the real expansion is unknown, neither from the verses in the Holy Quran nor from scientific theories. We have not found any verse about that in the Holy Quran, but there are different verses which indicate that the absolute knowledge is upon the Almighty Allah; and no one would know everything of the Almighty Allah’s knowledge; for example the verse number 66, Ali – Imran Sura translated as *“Here you are – you argue about things you know, but why do you argue about things you do not know. Allah knows, and you do not know”*. With respect to our accumulated figures process, there are different verses from the Holy Quran indicates that imaginary time as ‘no time’, for example, the verse number 117, Al-Baqara Sura, which we presented earlier, translated as *“Originator of the heavens and the earth. Whenever He decrees a thing He says to it ‘Be’ and it becomes”*. So, in this regard we define here ‘no time’ as infinitesimal time, by which incidence would occur in ‘no time’. This means that any action in the universe would be infinitesimal action as indicated in the Infinity Concept part; accordingly, the infinitely zero point at the beginning of the Big Bang, and the mathematical property of infinity that its center is anywhere in infinity prove that the universe is completely self content (see Figure 3); hence the creator would be anywhere in the universe and any action in the universe, would be done in no time by the will of the creator the Almighty Allah.

### ***1.3.6. The Dark Matter and the Cosmological Constant***

The dark matter is an invisible and hypothetical form of matter. The evidence of existing of dark matter came from the observation that all galaxies would fly apart Rather than rotate if they did not include large amount of matter, which predicted to be unseen matter (Daniel). Accordingly it was realized that space is not empty vacuum. The cosmological constant was introduced by Einstein in his general relativity theory to justify his proposition that the universe is static. He rejected it after realized that the universe is expanding; but later on it was approved to be exist. In 1990 astronauts discovered that universe not only expanding but accelerating in its expansion. With respect to our research, the cosmological constant is represented by the rate of growth of

accumulated figures of set of constants starting from the daily rate of growth of accumulated figures for each month; then monthly rates of accumulated figures for each year; then yearly accumulated figures for each decade; centuries for each millennium and so on. This phenomenon indicates that the universe accelerates through space-time Figure 4 is a graphic representation of this phenomenon. As indicated in the figure both the accumulated figures and the groups of its rates of growth's constants would be accelerating. It is reported in [livescience.com](http://livescience.com) web site that there is a link between the cosmological constant and the dark matter. However, the concept of dark matter is still subject to more researches. In this concern our accumulated figures fields constitute an abstract background for the universe irrespective of the existence of dark matter. As there is a link between the dark matter and the cosmological constant there might be also relation between these figures and the dark matter. Going again to the Holly Quran, there are two verses, which to our understanding indicate the existence of dark matter and explain some information about it; these are the verses number 45 and 46 in Al-Furqan Sura, translated as: *“Do you not see how your Lord extends the shadow? Had He willed; He could have made it still. And WE made the sun a pointer for it”* and the verse, *“Then We withdraw it towards us gradually”*. Our interpretation to the first verse is that the expanding shadow stated in the verse is not the shadow of objects, which reflected by the sun's light; it is more likely to be the Dark matter. Our evidence for the interpretation of this verse is that; first, the observed shadow does not expand, but changes from long to short in different directions according to relative location of the sun and earth. Second, what comes in the verse that the Almighty Allah made the sun a pointer of it indicate that it is the sun's light that indicates the existence of the dark matter. All stars including the sun; their vision from the earth, whether at night, with respect to stars, or at day with respect to the sun are a historical vision. What we see at night in some parts of the earth are the histories of the far universe by lights we would receive later from them. So, it is the dark matter that might be expanding carrying the whole universe. With respect to the second verse we interpreted it as that the Almighty Allah prevented the shadow (dark matter) from speeding up by withdrawing it towards Him gradually, which simulated by the scientific theory of rotations of the galaxies so as not to escape out. The camel's picture near some brass in a desert in Figure 5 is a best representation of this phenomenon. It was taken from high distance intensive light on a white camel near white brass in the desert; it shows the white camel and brass with black color and white shades on the ground, (Magdy). This indicates that a part of the dark matter appeared over the white camel in a dark media as a result of intensive light came from the respective source. The desert looks with brown color indicating that the light over it was not intensive. The phenomenon of our accumulated figures in this regard simulates, in general, the possibility of relationship between the dark matter & the cosmological constant and the acceleration of the astronauts' movement on the dark matter. It simulates also the theory of relativity with respect to the constancy of the velocity of light with the highest possible speed, but on the dark matter rather than on vacant as considered in the theory of relativity.

**Figure 1: X95.Zeptoseconds Accumulated Values**

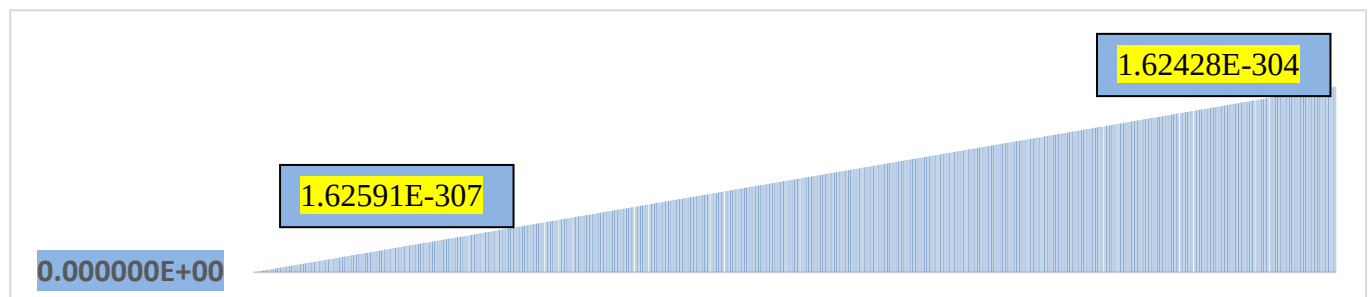


Figure 2: Milliseconds Accumulated Figures

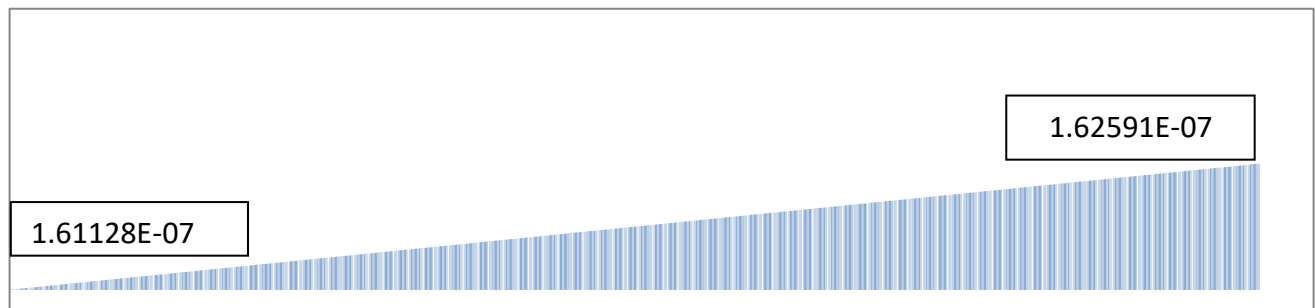


Table 1: Reference’s Date/Time Accumulated Figures from the Starting of the Big Bang

| Second       | Minute       | Hour     | Day    | Month | Year | Century | Millennium |
|--------------|--------------|----------|--------|-------|------|---------|------------|
| 18           | 18           | 29       | 8      | 6     | 24   | 20      | 1          |
| 4.715140E-06 | 1.755983E-04 | 0.010536 | 2.9577 | 4.5   | 6.75 | 13500   | 20250      |

Figure 3: Real and Virtual Expansion Self-contained in Infinity

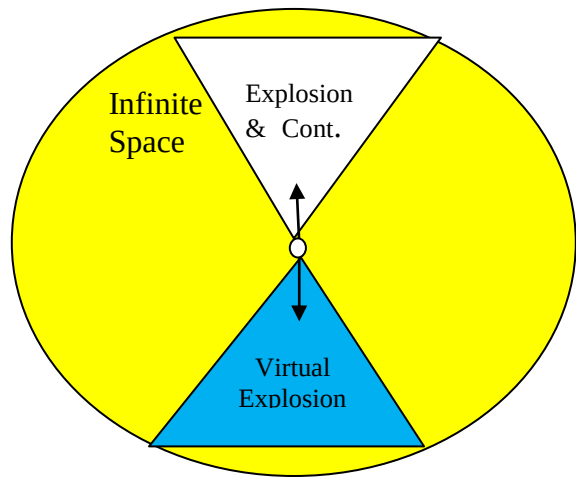
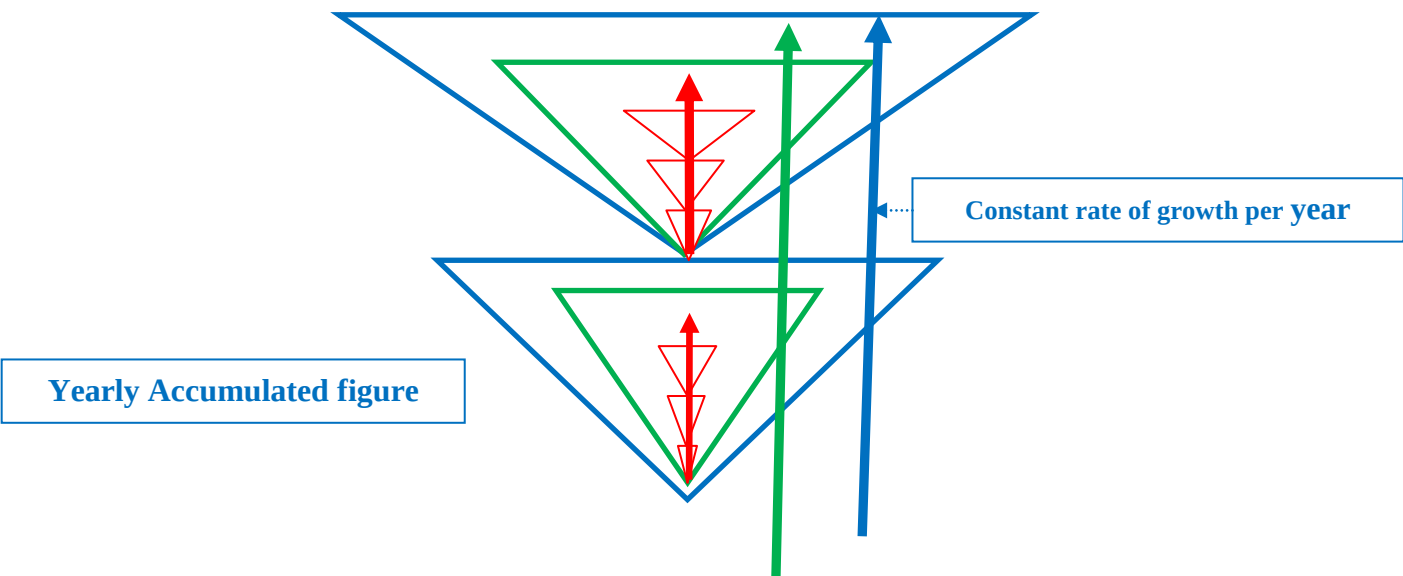


Figure 4: Accumulated Figures Cosmological Constant





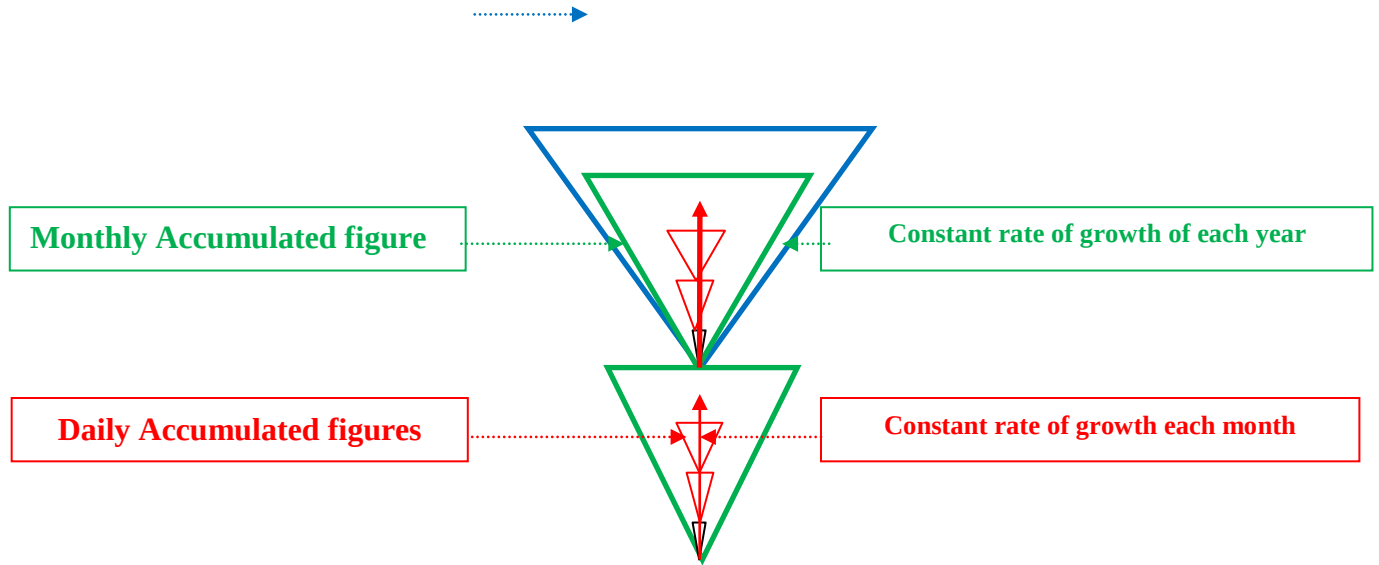


Figure 5: Dart Matter in the Shape of a Camel with Grass



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