

CHAPTER 2

THE TIME ELEMENT

Time has been recognized as the most important physical variable in any scientific calculations. It has been termed by some scientists as the *fourth dimension*. In fact, time is the only physical parameter that differentiates between static and dynamic conditions. Any thing in the universe, no matter how small it is or how large it is, is in continuous motion. Any dynamic process is time dependent. The universe is a living dynamic system that changes and evolves continuously. Time and motion always go together. In this vast and infinite universe, there are infinite number of motions and therefore infinite number of time frames. The human mind can not grasp or comprehend the universal time frames. We can only understand, even partially, our very limited time frame associated with the earth's motion around the sun and around itself and the moon's motion around the earth. A form of time-motion relation has been developed by Albert Einstein in his theory of relativity.

The corner stone of any study or scientific research is *computing*. In order to be able to compute, there must be some reference to relate the computation to. ALLAH (SWT) Has Created all elements, that we humans can utilize to learn and to develop. The global

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هُوَ الَّذِي جَعَلَ الشَّمْسُ ضِيَاءً وَالْقَمَرَ نُورًا وَقَدَرَهُ
مَنَازِلَ لِتَعْلَمُوا عَدَدَ السِّنِينَ وَالْحِسَابَ مَا خَلَقَ اللَّهُ ذَلِكَ إِلَّا بِالْحَقِّ
يَفْصِلُ الْآيَاتِ لِقَوْمٍ يَعْلَمُونَ ﴿٥﴾

سورة يونس

الجزء الحادى عشر

Cited Verse #(2-1)

In The Name of ALLAH, Most Gracious, Most Merciful

It is He Who Made the sun to give off powerful light and the moon to be a light, and Arranged its stages so you can learn the number of years and to compute, nowise did ALLAH Create this, but in truth and righteousness, He Explains His signs in detail for those who know.

(part 11, Surat Yunus “Jonah”)

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

إِنَّ عِدَّةَ الشُّهُورِ عِنْدَ اللَّهِ اثْنَا عَشَرَ شَهْرًا فِي كِتَابِ اللَّهِ
يَوْمَ خَلَقَ السَّمَوَاتِ وَالْأَرْضَ مِنْهَا أَرْبَعَةٌ حُرُمٌ ذَلِكَ الدِّينُ الْقَيِّمُ
فَلَا تَظْلِمُوا فِيهِنَّ أَنْفُسَكُمْ وَقَاتِلُوا الْمُشْرِكِينَ كَافَّةً كَمَا يُقَاتِلُونَكُمْ
كَافَّةً وَاعْلَمُوا أَنَّ اللَّهَ مَعَ الْمُتَّقِينَ ﴿١٠﴾

سورة التوبة

الجزء العاشر

Cited Verse #(2-2)

In The Name of ALLAH, Most Gracious, Most Merciful

The number of months in the sight of ALLAH is twelve, so ordained by Him the day He Created the heavens and the earth, of them four are sacred, this precious religion, so do not be unfair for yourselves therein and fight the pagans all together as they fight you all together, and know that ALLAH is with those who fear Him.

(part 10, Surat Tawbah “Forgiveness”)

light is a reflection of the sun's light. As the location of the moon relative to the sun and to the earth changes, the portion of the moon that is exposed to the sun's light changes. As viewed from the earth, the shape of the lighted portion of the moon changes from a very small crescent to larger ones to half moon to full moon. The lighted portion is then reduced from full moon to half moon to crescent, whose size becomes smaller each night until it disappears. This cycle takes place as the moon completes one revolution around the earth and is known as *the lunar month*. The beginning of the lunar month starts with the appearance of the first visible crescent. More information about the sun and the moon is given in Chapter 3.

The Lunar Year and The Solar Year

The lunar year is the year associated with the motion of the moon around the earth. The solar year is the year associated with the motion of the earth around the sun. In the Holy Qur'an, ALLAH (SWT) Has Told us directly the duration of the lunar year. He did not Tell explicitly the duration of the solar year, but instead gave us the exact mathematical formula that relates the solar year to the lunar year.

In cited verse #(2-2) ALLAH (SWT) Says that the number of months, in His record, the day He Created the heavens and the earth is TWELVE. The next words in the verse are, "of them four are sacred". Those words determine that the lunar year has twelve months, because the lunar year is the one used by the Arabs, known as "Hijri year", and it has four sacred months. The four sacred months in the Hijri year are, "Zulq'e'da", "Zulhejjah", "Moharram" and "Rajab". The solar year also has twelve months.

In the Arabic language (the Holy Qur'an language), there are two different words having the meaning of "year". Those two words are the word "SANAH" and the word "AAM". Almost all the Arabic speaking people are using both words indiscriminately, without knowing the difference between them. It will be shown here that there is a significant difference between the two words, and only the Holy Qur'an shows that in a very striking way.

In cited verse #(2-1), we see that the word "SINEEN", which is the plural of the word "SANAH" is associated with the motion of the moon and its different stages. Therefore, the word "SANAH" means "LUNAR YEAR".

Surat Al Kahf (*The Cave*), in the Holy Qur'an, presents the story of a group of men and their dog. They fled their town in fear of prosecution because of their religious belief. They went to hide in a cave. ALLAH (SWT) Made them go into deep sleep (as if they were dead), in the cave for a long period of time, then awaked (resurrected) them. Cited verse #(2-3) depicts the moment when they woke up [when they were resurrected by ALLAH (SWT)]. They were asking each other, how long have we stayed in this cave?.

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

وَكَذَلِكَ بَعَثْنَاهُمْ
لِيَتَسَاءَلُوا بَيْنَهُمْ قَالَ قَائِلٌ مِّنْهُمْ كَمْ لَبِثْتُمْ قَالُوا لَبِثْنَا يَوْمًا أَوْ بَعْضَ
يَوْمٍ قَالُوا رَبُّكُمْ أَعْلَمُ بِمَا لَبِثْتُمْ فَابْعَثُوا أَحَدَكُمْ بِوَرِقِكُمْ هَذِهِ إِلَى
الْمَدِينَةِ فَلْيَنْظُرْ أَيُّهَا أَزْكَى طَعَامًا فَلْيَأْتِكُمْ بِرِزْقٍ مِنْهُ وَلْيَتَلَطَّفْ
وَلَا يُشْعِرَنَّ بِكُمْ أَحَدًا ﴿١٩﴾

سورة الكهف

الجزء الخامس عشر

Cited Verse #(2-3)

In The Name of ALLAH, Most Gracious, Most Merciful

And so We Have Resurrected them (from the deep sleep), that they question each other, said one of them “how long have we stayed (asleep)”, they said “we have stayed a day or part of a day”, they said “your LORD Knows best how long we have stayed”, send one of you with these papers (money) of yours to the town and let him find which is the best food and bring some to you and let him behave with cautious and not to let any body feel your presence.

(part 15, Surat Al Kahf “The Cave”)

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

وَلَبِثُوا فِي كَهْفِهِمْ ثَلَاثَ مِائَةٍ سِنِينَ وَازْدَادُوا تِسْعًا ﴿٢٥﴾

سورة الكهف

الجزء الخامس عشر

Cited Verse #(2-4)

In The Name of ALLAH, Most Gracious, Most Merciful

And they stayed in their cave three hundred years and increased by nine.

(part 15, Surat Al Kahf “The Cave”)

They all said that they have stayed “*a day or part of a day*”. Cited verse #(2-4) states that they have stayed (they have been asleep in the cave) three hundred years “*SANAH*” and increased by NINE. This is a very significant statement. ALLAH (SWT) is Educating us, He Wants us to think. ALLAH (SWT) Could Have Said that the cave people stayed there for three hundred and nine years “*SANAH*”, but instead He Said, three hundred years and increased by nine. ALLAH (SWT) is Giving us a clue here. Studying this phrase carefully, we find the following :-

- ◆ The cave people stayed in their cave (in deep sleep) for *three hundred and nine LUNAR YEARS*.
- ◆ When the cave people were resurrected from their deep sleep, they believed that they have stayed asleep for a day or part of a day. This indicates that *the deep sleep started and ended in THE SAME WEATHER CONDITION (SAME SEASON)*.
- ◆ Changes in the weather conditions are associated mainly with the four seasons (spring, summer, autumn and winter). *These four seasons have fixed starting and ending dates in the solar year calendar not in the lunar year*. Figure (2-1) symbolically illustrates the location of the earth relative to the sun in consecutive solar and lunar years. It shows that the months of the lunar year move from one season to another along the years.
- ◆ Had the cave people stayed in their cave (in deep sleep) only three hundred lunar years “*SANAH*”, *they would have been resurrected in a different weather condition. In such case, they could have never said that they have stayed a day or part of a day*.
- ◆ After being asleep for *three hundred and nine years “SANAH”*, *the cave people did not notice any change in the weather. THEREFORE, THE EARTH MUST HAVE COME TO THE SAME EXACT POSITION IN ITS ORBIT AROUND THE SUN AS IT WAS AT THE BEGINNING OF THESE YEARS*.

These findings together with the clue that ALLAH (SWT) Gave (*three hundred years and increased by nine*), indicate that *THREE HUNDRED AND NINE LUNAR YEARS ARE EQUIVALENT TO THREE HUNDRED SOLAR YEARS*.

Based on this mathematical relation, and since the solar year has 365.2422 days, we find that the lunar year “*SANAH*” has 354.604 days, that is the lunar year is 10.6382 days shorter than the solar year. Since the lunar year has twelve months [cited verse #(2-2)], we find that the lunar month has 29.55 days.

It is worth mentioning here that the measurements and computations using the latest scientific and technological tools, have yielded results that are almost identical to the above. We have to emphasize here that the findings that we can correctly deduce from the

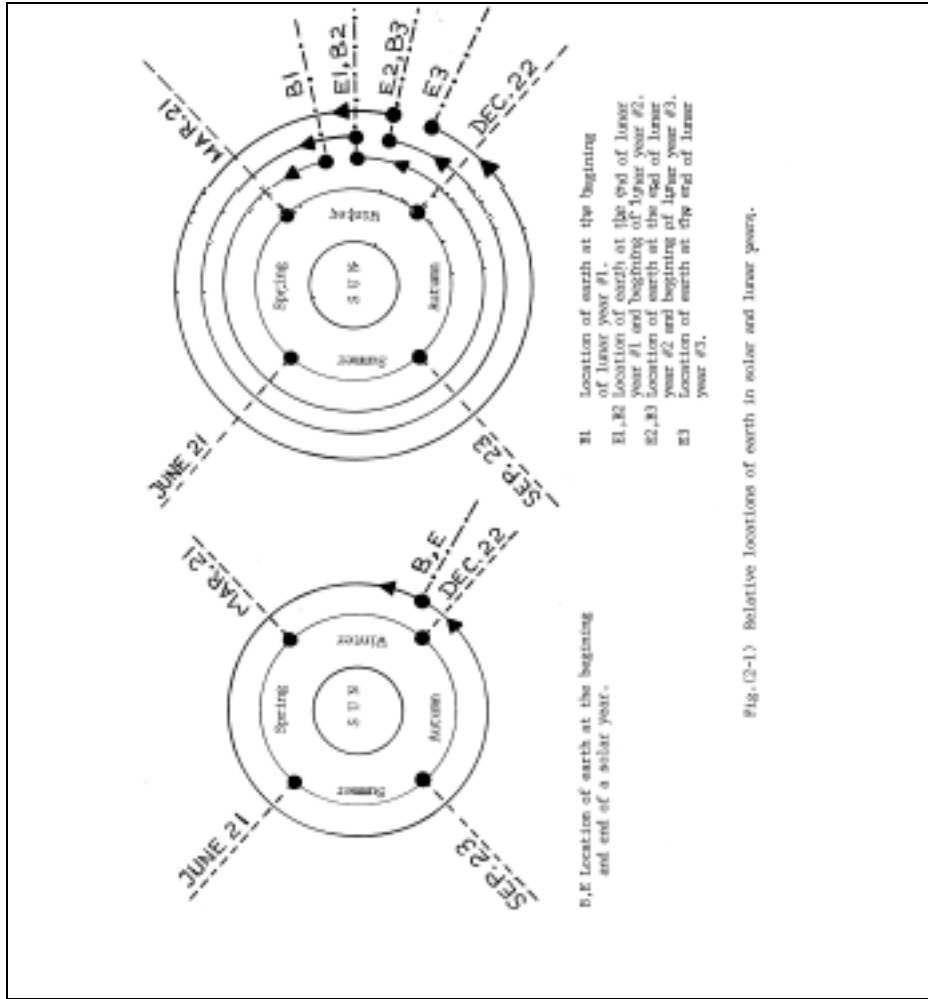


Fig. (2-1) Relative locations of earth in solar and lunar years.

Holy Qur'an are the most accurate, since they are given to us by the Creator, ALLAH (SWT).

Cited verse #(2-5) depicts the story of a man who was passing by a village, which was completely in ruins. He wondered, how could ALLAH (SWT) Resurrect this village after its death. ALLAH (SWT) then Put him to death for one hundred years "Aam", then Resurrected him. In this verse, the Arabic word for a year "Aam" was used NOT the word "Sanah". After his resurrection the man was then asked, "how long have you stayed?". The man said, "I have stayed a day or part of a day". The man said that because when he was resurrected, he found that the weather conditions were the same as when he died. This indicates that after one hundred years "Aam", the earth returned to the same position in its orbit around the sun as it was at the beginning of the hundred years "Aam". This happens only, if those hundred years were Solar Years.

Therefore, the Arabic word for a year "Aam" is meant to be a *solar year*, and the Arabic word for a year "Sanah" is meant to be a *lunar year*.

Such distinction between the two words in the Holy Qur'an, the word "Sanah" and the word "Aam" is very important in establishing the creation timeline.

In cited verse #(2-6), the two Arabic words for the word "year", which are, "Sanah" and "Aam", are mentioned. In this verse, ALLAH (SWT) with His Holy wisdom Gave a rather noticeable expression, in order to let us know the difference between the two Arabic words, "Sanah" and "Aam". In Telling how long Prophet Nooh "Noah" lived among his people, ALLAH (SWT) Gave two different counts of the years. One count in terms of "Sanah" and another in terms of "Aam". In this verse, ALLAH (SWT) Said, "he (Noah) stayed among his people for one thousand "Sanah" less fifty "Aam". If the two words "Sanah" and "Aam" were the same, that is having the same duration of time, ALLAH (SWT) Would Have Said, nine hundred and fifty "Sanah" or "Aam". By this particular phrasing, ALLAH (SWT) is Giving us a pointer to think about the two words "Sanah" and "Aam". Cited verse #(2-6) is the only verse in the Holy Qur'an where the two words for a year "Sanah" and "Aam" were mentioned together to describe a period of time.

Using the mathematical relation shown earlier between the lunar year "Sanah" and the solar year "Aam", we find that Prophet Noah has stayed among his people for the period of 948.499 *lunar years*, which is equivalent to 920.87 *solar years*.

Since we are living on the earth, our time frame, that is all the variables that we compute time with (second, minute, hour, day, week, month, year, decade, century, ... etc.) are determined by the rotation of the earth around itself, the motion of the earth around the sun, and the motion of the moon around the earth. The speed of the earth rotation about itself, determines the length of the day. The distance of the earth from the sun, and the speed at which the earth moves in its orbit around the sun, determine the

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أَوْ كَالَّذِي مَرَّ عَلَى قَرْيَةٍ وَهِيَ خَاوِيَةٌ عَلَى عُرُوشِهَا
 قَالَ أَنِّي يُحْيِي هَذِهِ اللَّهُ بَعْدَ مَوْتِهَا فَأَمَاتَهُ اللَّهُ مِائَةَ عَامٍ ثُمَّ بَعَثَهُ قَالَ كَمْ
 لَبِثْتُ قَالَ لَبِثْتُ يَوْمًا أَوْ بَعْضَ يَوْمٍ قَالَ بَلْ لَبِثْتَ مِائَةَ عَامٍ فَانظُرْ
 إِلَى طَعَامِكَ وَشَرَابِكَ لَمْ يَتَسَنَّهْ وَانظُرْ إِلَى حِمَارِكَ وَلِنَجْعَلَكَ آيَةً
 لِلنَّاسِ وَانظُرْ إِلَى الْعِظَامِ كَيْفَ نُنشِزُهَا ثُمَّ نَكْسُوهَا لَحْمًا فَلَمَّا تَبَيَّنَ لَهُ
 قَالَ أَعْلَمُ أَنَّ اللَّهَ عَلَى كُلِّ شَيْءٍ قَدِيرٌ ﴿٢٥٩﴾

سورة البقرة

الجزء الثالث

Cited Verse # (2-5)

In The Name of ALLAH, Most Gracious, Most Merciful

Or like the one who passed by a village, all in ruins, said “how shall ALLAH Bring this to life after its death, ALLAH then put him to death for one hundred years “Aam” then resurrected him, He said “how long Have you stayed (dead), he said, “I stayed a day or part of a day”, He said, “but you have stayed (dead) for one hundred years “Aam”, look at your food and your drink, they show no signs of aging, and look at your donkey, and We may make of you a sign for the people, and look at the bones how We bring them together and clothe them with flesh, when this was shown clearly to him, he said, “I know that ALLAH is capable of doing everything.

(part 3, Surat Al Baqarah “The Heifer”)

duration of the solar year. The movement of the moon around the earth determines the lunar month and the lunar year. If we were living on a different planet in our solar system, say Mars, our local time frame will be different. Different day length, different duration of the solar year and two different lunar years, because Mars has two moons.

In our solar system, there are several different time frames. The size of our solar system compared to the size of our galaxy (the Milky Way) is like a needle in the ocean. Our galaxy is among billions and billions of other galaxies and celestial objects. Therefore, there are an infinite number of time frames in the universe. Our human mind is incapable of understanding even the most elementary concept of time beyond our solar system.

In cited verse #(2-7), ALLAH (SWT) Says that the angels and the spirit ascend unto Him in a day which is equivalent to fifty thousand of our lunar years. This gives us another very important piece of information regarding the motion of the angels in the heavens. From this verse we learn two things. The length of time here on earth and even in our solar system is extremely insignificant compared to the length of time in the universe (the heaven). Generally, the size and the dynamics of a physical system are indicative of the time measuring unit. The largest unit of measuring time here on earth is the year (whether a solar year or a lunar year). This tells us that the size of the universe (the heaven) is infinitely huge and beyond our comprehension. More detailed information

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وَلَقَدْ أَرْسَلْنَا نُوحًا إِلَىٰ قَوْمِهِ فَلَبِثَ فِيهِمْ أَلْفَ سَنَةٍ إِلَّا خَمْسِينَ عَامًا
فَأَخَذَهُمُ الطُّوفَانُ وَهُمْ ظَالِمُونَ ﴿١٠﴾

سورة العنكبوت

الجزء العشرون

Cited Verse # (2-6)

In The Name of ALLAH, Most Gracious, Most Merciful

And We Have Sent Nooh “Noah” to his people and he stayed among them one thousand years “*Sanah*” less fifty years “*Aam*”, and the deluge overwhelmed them while they persisted in sin.

(part 20, Surat Al Ankaboot “The Spider”)

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

تَعْرُجُ الْمَلَائِكَةُ وَالرُّوحُ إِلَيْهِ فِي يَوْمٍ كَانَ مِقْدَارُهُ خَمْسِينَ أَلْفَ سَنَةٍ ﴿٧﴾

سورة المعارج

الجزء التاسع والعشرون

Cited Verse # (2-7)

In The Name of ALLAH, Most Gracious, Most Merciful

The angels and the spirit ascend unto Him [ALLAH (SWT)] in a day measure thereof is fifty thousand years (*Sanah*)

(part 29, Surat Al Ma’arij “Ascending in Heaven”)

Since time is a measurable quantity, therefore it must have units to measure it with. As mentioned earlier in this chapter, the units that we humans use to measure the time are based on the motions of the earth.

In the Holy Qur'an ,ALLAH (SWT) is Talking to us humans. He is Giving us enough information about all things that touch our life, cited verse #(I-1). ALLAH (SWT) Demanded from the believers to study the creation of the heavens and the earth, cited verses #(I-4). In order to gain some understanding of the creation of the heavens and the earth, ALLAH (SWT) Gave some basics. Among these basics is the time measuring unit for the creation of the heavens and the earth. ALLAH (SWT) is Telling us about this time unit, because before and during the creation of the heavens and the earth, there were no earth days. The earth started to function as it is today and the duration of the earth days was established after the creation period has ended (see Chapter 3).

In cited verse #(2-8), ALLAH (SWT) Says that a day in His Holy sight is equivalent to one thousand of our lunar years "*Sanah*". Using the mathematical relation established earlier between the lunar and the solar years, we find that one day in ALLAH's Holy sight is equivalent to 970.87 solar years. In mentioning the duration of a day in the sight of ALLAH (SWT), He is Giving us a very important piece of information. This piece of information enables us to compute exactly and in our time frame, the length of time during which ALLAH (SWT) Created the heavens and the earth. This will be shown in full details in Chapter 3.

The duration of the day in the sight of ALLAH (SWT) has been mentioned in the Holy Qur'an only twice, in cited verse #(2-8) and cited verses #(2-9). In the first *Aayah* (verse) of cited verses #(2-9), ALLAH (SWT) is Telling that He Has Created the heavens and the earth and what in between them in six days. In the second *Aayah* (verse) of cited verses #(2-9), ALLAH (SWT) Says that the affairs which He Arranges from the heaven to the earth, go back to Him in a day which is equivalent to one thousand years (*Sanah*) of what we count. The years which we count are the earth's years [see Appendix D].

The sequence of events in these verses is very clear. First ALLAH (SWT) Created the heavens and the earth and what in between them in six days, then He Arranges all affairs from the heaven to the earth, that is He sends His commands from the heavens to the earth. The commands of ALLAH (SWT) are instantly executed. The executed commands go back to report to Him in a day which is equivalent to one thousand of our years (*Sanah*). The association between the days of creation and the day which the executed commands go back to ALLAH (SWT) indicates that a creation day is a day in the sight of ALLAH (SWT), which is equivalent to one thousand of our lunar years (*Sanah*).

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وَيَسْتَعْجِلُونَكَ بِالْعَذَابِ وَلَنْ يُخْلِفَ اللَّهُ وَعْدَهُ
وَإِنَّ يَوْمًا عِنْدَ رَبِّكَ كَأَلْفِ سَنَةٍ مِمَّا تَعُدُّونَ ﴿٤٧﴾

الجزء السابع عشر سورة الحج

Cited Verse #(2-8)

In The Name of ALLAH, Most Gracious, Most Merciful

And they ask you to hasten on the torture, and ALLAH Will not Fail in His promise, verily a day in the sight of Thy LORD is equivalent to one thousand years (*Sanah*) of those what you count.

(part 17, Surat Al Hajj “The Pilgrimage”)

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

اللَّهُ الَّذِي خَلَقَ السَّمَوَاتِ وَالْأَرْضَ
وَمَا بَيْنَهُمَا فِي سِتَّةِ أَيَّامٍ ثُمَّ اسْتَوَىٰ عَلَى الْعَرْشِ مَا لَكُمْ مِنْ دُونِهِ مِنْ
وَلِيٍّ وَلَا شَفِيعٍ أَفَلَا تَتَذَكَّرُونَ ﴿١﴾ يُدِيرُ الْأُمْرَ مِنَ السَّمَاءِ إِلَى الْأَرْضِ
ثُمَّ يَعْرُجُ إِلَيْهِ فِي يَوْمٍ كَانَ مِقْدَارُهُ أَلْفَ سَنَةٍ مِمَّا تَعُدُّونَ ﴿٢﴾

الجزء الحادى والعشرون سورة السجدة

Cited Verses #(2-9)

In The Name of ALLAH, Most Gracious, Most Merciful

ALLAH is He Who Created the heavens and the earth and what in between them in six days, then firmly Established on the Throne, you do not have other than Him to protect you and to intercede on your behalf, should not this be always on your mind. He Arranges all affairs from the heavens to the earth, then they go back to Him in a day equivalent to one thousand years (*Sanah*) of what you count.

(part 21, Surat Al Sajdah “The Adoration”)

SUMMARY AND CONCLUSIONS

The findings from Chapter 2 may be summarized as follows:-

- ◆ Time as we know it, is a relative quantity. It is measured and calibrated by the rotation of the earth about itself, and its motion around the sun.
- ◆ There are billions of galaxies, each have billions of stars. Also there are huge numbers of other celestial objects. All of these are in continuous motion. Associated with those motions there are an infinite number of time frames that we could not comprehend.
- ◆ In the Holy Qur'an ALLAH (SWT) Has Given us the exact mathematical relation between the lunar year and the solar year. Based on the solar year of 365.2422 days, the lunar year has 354.604 days, that is 10.6382 days shorter than the solar year. Accordingly, the lunar month has 29.55 days.
- ◆ A day in the sight of ALLAH (SWT) is equivalent to one thousand of our lunar years. This is a very important piece of information. Such information is essential in determining the length of time, in our years, during which the heavens and the earth were created (as will be presented in Chapter 3).