Abstract: The study of the characteristics of various kinds of energy in the universe has become the main source of human success, to achieve his faith in God. One of them with a scientific proof of the truth of the Al-Qur'an against science that has been tested theoretically and empirically must also be in accordance with what is stated in the Al-Qur'an. This study aims to find a meeting point of the Al-Qur'an with modern science about the interpretation of the verses of the cosmos regarding the origin and extinction of the universe. The information provided by the Al-Qur'an will remain confidential, until the human mind is able to properly digest the information. As time goes by and the development of science, Allah gradually proves the truth of the Al-Qur'an information about the universe. The results of this study indicate that the Al-Qur'an has far preached the theory of the universe before modern science revealed it in a study.

Keywords: origin, the extinction of the universe, the verses of the cosmos

Introduction

Al-Qur'an as Quraish Shihab is not a scientific encyclopedia that presents various scientific theories as well as explanations about the secrets of the universe. Al-Qur'an is the al-book contains two main things, namely: (1) aspects of al-nubuwah contain knowledge about the universe that is objective in mutasyabihat verses, most of these verses contain the nature given by Allah to the Prophet Muhammad PBUH is ghaybiyyah, things that are not yet known to human reason because they have not been able to properly digest the information provided. The justification of the information conveyed by the Al-Qur'an will be proven when an in-depth analysis is carried out by experts in getting the deepest meaning that is not affordable by most lay people (Al-Sya'rawi, 2008).

In the format of verses mutasyabihat does not contain prohibitions or commands but rather the form of I’tibar (lessons) that can be taken. Whereas (2) the treatise aspect contains the principles of human behavior which are subjective in the verses of muhkamat which contain laws that are conveyed to the messenger of Muhammad, includes: worship, muamalah, morals, and halal-haram. Thus the Al-Qur'an as a treatise is the main source of teachings that benefit the reader in navigating the world (Shihab, 1998).

The contribution of Islamic theology to the cosmos, shown by al-Ash'ariyah theologians (Nasution, 1993) who have traditional patterns, argues that the cosmos was created from nothing, according to the rules of sunnatullah (Natural law), but not qadim but has a beginning. While the theologian group Mu'tazila (Amin, 1965) who has a rationalist style of view of the cosmos is created from something that already has a form but does not yet have the letter as empirical or they are commonly called (al-maddat al-ula). Some Mu’tazila tend to associate the problem of the creation of the universe with the belief in monotheism which actually damages the image of monotheism itself.
Different contributions were shown by 20th-century cosmologists, they relied on empirical matters rather than speculative things like the flow of Islamic thinkers at the time. Western cosmologists claim that the cosmic realm existed long ago (qadim) nothing created and did not change its condition until an infinite amount of time to come. In the end, they assume that the cosmos is eternal. Nevertheless, the world of science (science) always undergoes changes in accordance with emerging theories and new discoveries of the level of sophistication of the tools or means of each age (Fazlurrahman, 1989). Mount Wilson Observatory in California in 1889-1929 conducted the latest research by observing the cosmos, away from each other at a faster pace. This new discovery gave a new surprise that undermined the theory of the steady state universe, which assumed that all this time, the cosmos had remained in its place. Western cosmologists and Muslims are increasingly convinced that this cosmic universe created.

The complexity of the Al-Qur'an as a broad-minded religious book, making the Al-Qur'an as a prototype of all books that symbolize knowledge (Zar, 1997). Every natural phenomenon traced from scientific research indicates that every natural phenomenon is realized thanks to a number of causes (Beheshti, 2003). When we want to prove scientific miracles in the Al-Qur'an, then we can ponder and question the nature of the creation of the cosmos, its destruction and its return to its original form in a perfect, thorough and admirable way.

For this reason, it is necessary to gather information in the Al-Qur'an from various verses that complement each other, which are spread out in several Surahs of the Al-Qur'an. With that humans are encouraged to reflect on the earth and its contents. The verses as follows:

1. "And the heaven We constructed with strength, and indeed, We are [its] expander". (Adz-Dzariyat:47)
2. "Have those who disbelieved not considered that the heavens and the earth were a joined entity, and We separated them and made from water every living thing? Then will they not believe?" (Al-Anbiya :30)
3. "Then He directed Himself to the heaven while it was smoke and said to it and to the earth, "Come [into being], willingly or by compulsion." They said, "We have come willingly." (Fussilat:11)
4. "The Day when We will fold the heaven like the folding of a [written] sheet for the records. As We began the first creation, We will repeat it. [That is] a promise binding upon Us. Indeed, We will do it". (Al-Anbya:104)
5. "[It will be] on the Day the earth will be replaced by another earth, and the heavens [as well], and all creatures will come out before Allah, the One, the Prevailing". (Ibrahim:48).

A. The Big Bang Theory, the perspective of Science and the Al-Qur'an

Scientific exploration has done a lot of humanity thousands of years ago, to find out who created the universe and everything in perfect order. Until we find that science reaches its golden peak with sophisticated tools to explore scientific information in the field of cosmology (Tjasyono, 2016).

Scientific competition in narrating the origin of the universe is mostly done by Western scientists, as proof of their rationality to unravel the birth process of the universe. One of them was the NASA team led by George Smoot in 1989, launching satellites, through a sensitive instrument called COBE (Cosmic Background Emission Explorer). The research revealed that there were remnants of a massive explosion of the universe in the form of dense and heat. From the results of the study, they concluded that in the end the Big Bang Theory emerged as a scientific theory explaining the origin of the universe (Ramadhani, 2017).

Massive exploration of this outer space, can be said to the level of war. But this has also intrigued many Muslim scientists to review their research, by deepening the verses of the Al-Qur'an that already had thoughts about the heavens. Orientalists were also amazed by the delivery of the Al-Qur'an 1400 centuries ago that has outlined this universe so beautifully and simply. So that they often make new breakthroughs in breaking down the universe, we as Muslims increasingly believe that the One who created the universe is the One who sent down the Al-Qur'an (Bucaile, 2001).

Western scientists and NASA staff provide an explanation that the universe originated from explosions concentrated in a single material some 1010 years ago, which continuously expanded away
from the center of the explosion. From a powerful explosion that developed into four forces known today, namely the gravitational force, electromagnetic force, the weak core force, and the strong core force (Sani, 2015).

The Big Bang Theory as a modern theory that explains the origin of the cosmos, has the support of Prof. Abbul Hamid, deputy telescope star of Egypt (formerly), explains the Earth and all the planets in the sky, starting from a large star close to the sun in the past. Then, from the surface attracted a pile of fog that soon separated from the sun in the form of arrows whose two edges are decorated and the middle in. Then this mist heap thickened in the cold sky until it became separate heaps which later became our earth and continued to experience evolution due to the attraction of the sun. The light of the planets goes out, because the mist deposits are relatively small to be able to maintain the original nature that is owned before divorcing the sun, which is the emitting of light (Al-Maraghi, 1989).

Long before humans theorized about the creation of the universe, The Al-Qur’an, which descended on the Arabian desert 1,400 years ago, pioneered this theory and provided a solid foundation for the Big Bang theory as a fact that the Al-Qur’an has previously explained. The following describe in surah Al-Anbiya verse 30 which states as follows:

"Have those who disbelieved not considered that the heavens and the earth were a joined entity, and We separated them and made from water every living thing? Then will they not believe?"

Meaning:
"أو لم تر الذين كفرؤا أن أن السموت والأرض كانا رتقتا فافتقنها وجعلنا من أسماء كل شيء خيالاً يؤمنون"

The verses of the Al-Qur’an that come with editorial questions containing reproach of unbelievers, polytheists and atheists reminded them of the greatness of the power of Allah that appears in His creation. The word Ratqan in this verse is in the form of mashdar from the pronounced rataqa, which means to unite or combine. While the word Ar-Ratqa has the meaning "Woman who has tight pubic lips". This word is used to refer to two different substances which are mixed together. In the Indonesian translation the phrase "We separate" means split and split from the Ratkun structure, then Allah Almighty commands that these primitive objects be divided which is called in the Qur-an phase of al-fatq (El-Naggar, 2010).

With the help of modern science explain that the universe includes the heavens and the earth, its diverse elements, and the phenomena within it. Conformity between the Al-Qur’an and science reveals the birth of the cosmos. His divine power, knowledge, and wisdom are infinite, able to create this cosmos, eliminate it, and then restore it to its original form (Thayyarah, 2014).

According to this verse, Heaven and Earth in the beginning were something unified and united. Then Allah Almighty, separating the two so that the universe was formed as it is today. Some scholars make an interpretation of rataqa in Surah Al-Anbiya verse 30, it says:

1) Ibn Mundhir said in Lisanul Arabic the word ratqun is translated as connecting a tear and then patching it. In the above verse the antonym language is from the word fatqun, which is the separation between two things that melt or can also mean explosion and distribution.

2) Imam Ar-Razi quoted the opinion of Al-Hasan, Qatadah, Sa'id bin Zubair, and one of the Ikrimah narrations from Ibn Abbas by interpreting the words Ar-Ratqu and Al-Fatqu namely Heaven and Earth had been a single entity then Allah separated the two and lifted the sky into place (now) and demeaning the earth (as it is now). This opinion implies that the creation of the earth preceded the creation of the sky. Because after separating the two, God left the earth in its place and then raised the parts of the sky. Ka'ab said, "Allah created between the two a wind and separated them because of it." (Ahmad, 2016).

3) The opinion of Abu Saleh and Mujahid that the verse means "The heavens are raised then made seven and so is the earth which are both separated through the creation of the wind."

4) The opinion of Ibn Abbas and the majority of scholars interpreted that: "Heaven and earth were once a unified, homogeneous, and solid unity, then God split the sky with rain while the Earth with plants and trees".
So, as understood from the verse, that the heavens and the earth were initially united or united, then separated by divine command "kun fa yakun" which simplifies the great power of God Almighty, in His will determines that everything happens easily. But that does not mean that something happens immediately but through a process that requires time according to natural law, namely God's provisions on the sunatullah (Religion Department of RI, 2012). Accuracy in the editorial of the Al-Qur'an describes the condition of nature when it was still in the form of the first material, before a big explosion called in the scientific and astronomical world as The Big Bang Theory, that before heaven and earth, this nature was a coherent mass, then exploded and separated to form planets and stars. Then this huge explosion produced a thin membrane of smoke which became the embryo of the creation of heaven and earth with all its contents.

B. Samawa and Ar'd Singularities, the perspective of Science and the Al-Qur'an

Dr. Maurice Bucaile, a French medical expert, said, Science tells us that the formation of heaven and earth in the process was originally in the form of heavenly smoke, which has gone through condensation of nebulae (gas groups), then the gas breaks. Both of them were created from a singularity, which is something that is coherent that arises from a nothingness, thus forming the surrounding celestial bodies such as stars and galaxies, which all started from the fireball of energy left over from the big bang about 300,000 years after the great explosion of the universe (Jazmi, 2013).

After the explosion of the energy fireball (big bang), the scientists concluded that before galaxies in the universe formed with high density, there was a large gas matter in the form of clouds that rotate like a ball, where the attraction between the particles of fog material occurs, slowly formed rotation disks with a denser center of rotation forming. Lump of solid material which is the basic material forming planet (planetesimal) (Sani, 2015).

In short, this huge cloud-shaped gas material existed before the galaxy formed. This scientific fact is supported by Germany's best philosopher, Immanuel Kant. In 1755 who said that "Solar systems such as the sun, planets, moon, comets, and the rest are formed from atoms that fuse to form nebulae, which are a large mass like clouds of gas dust in space." (Ramadhani, 2017).

Stephen Hawking predicted the age of most of the planets that evolved no more than 3 billion years. Including the age of the planet Earth from the half-life of radioactive substances found on Earth around the earth created 4.5 billion (billion) years ago (Hawking, 2016). The energy released from the collision is estimated to be enough to generate heat capable of vaporizing the newly formed oceans and killing all living things that began to emerge on land (Tjasyono, 2014).

Disclosure of this fact can only be understood by the human brain after gaining knowledge from scientific developments with the most complicated calculations from Mathematics, physics, and astronomy, so the Al-Qur'an expresses it in light language, which shows that the Al-Qur'an is a whisper of the heart (intuition) which is easily digested by the human mind.

As the information provided Al-Qur'an, about the earth that depends on the space of the universe. The earth rotates around its axis, so that night comes from west to east, envelops the earth and its atmosphere, and covers up what is illuminated during the day, which makes us amazed at the Al-Qur'an's explanation of the earth.

Meaning
"And after that He spread the earth" (An-Nazi'at: 30).

The word Dahaha, besides intending to stretch, also means cassowary bird eggs. As the shape of cassowary bird eggs resembles the longitudinal shape of the earth (not round at all). Such is the light of the actual shape of the earth, even though when the Al-Qur'an was revealed man still assumed that the earth was horizontal (Jazmi, 2013). The latest scientific inquiry into the shape of the earth proves that the centerline connecting the two poles is slowly decreasing but steady. This is because the shape changes from bunder to ellipse (El-Fandy, 1991).
Singularity of the creation of heaven and earth, the scientists explain all the process of creating the cosmos began with large gas matter in the form of clouds that form planets and everything in it. This accuracy bears the resemblance to the editorial as the Al-Qur'an describes it.

Meaning:
"Then He directed Himself to the heaven while it was smoke and said to it and to the earth, "Come [into being], willingly or by compulsion." They said, "We have come willingly." (Fussilat: 11).

Ahmad Baiquni in his book Al-Qur'an and Natural Science, translates the word "dukhan" with the word "dew" instead of smoke as is widely known so far. Because according to him smoke consists of fine particles and condensation of vapor around it; both particles and vapors are made up of molecules which could not have existed at the time, because the natural temperature at that time was very high.

In the process condensation takes place as a result of rapid cooling; phase changes occur and energy changes into matter. This can be likened to condensation of water vapor into clouds, heat comes out which raises the temperature of the universe again, and inflation stops, so that it expands as before. At that time, the universe swelled in volume from a "dot" to the size of a "grapefruit" (Baiquni, 1997).

Once again the Al-Qur'an describes Surah Fussilat: 11 “Then He directed Himself to the heaven while it was smoke and said to it and to the earth, "Come [into being], willingly or by compulsion." The process of the arrival of the hot fog around a center is analogous to the arrival of pilgrims to surround the Kaaba which is called by Allah.

Meaning:
"He who created the heavens and the earth and what is between them in six days and then established Himself above the Throne - the Most Merciful, so ask about Him one well informed". (Furqan: 59).

The singularity of the creation of heaven and earth, described here shows cohesiveness. That the creation during the six periods includes the heavens and the earth's contents, is not understood as the time span of creation, not the day that humans understand at this time. Thus what is meant by the day in this verse is the time before heaven and earth were created.

But there are also verses which explain the creation of the heavens which lasted for two periods and the creation of the earth and its contents for four periods. So that when put together, it will be concluded that the creation of heaven, earth and its contents are six periods. The creation of the sky underwent two periods, namely the compaction of cosmic smoke and splitting into objects in space.

Meaning:
"And He completed them as seven heavens within two days and inspired in each heaven its command. And We adorned the nearest heaven with lamps and as protection. That is the determination of the Exalted in Might, the Knowing". (Fussilat: 12).

The terminology of samāwāt is translated 'seven heavens. There are also those who interpret the seven planets around the sun and the layers where the celestial bodies are circulating. The first sky is where the moon circulates; the second heaven is A’tharid, 'Mercury'; the third sky is Uhra, ‘Venus’. the fourth sky there is the sun; the fifth sky is Arikh, 'Mars'; the sixth heaven is Usytari, up Jupiter '. The seventh heaven is Juhal, ‘Saturn’. Meanwhile Imam Tabari prefers the middle way to carefully explain the scientific verses.

In another explanation in verse 12 of Surah Fushilat, Allah informs us that He made seven heavens in two eras. In the Al-Qur’an, the word sky refers to the sky above the earth. From the verses above, it
can be seen that the earth's atmosphere consists of 7 layers arranged in layers. Each layer has different physical properties such as pressure and type of gas. Each layer has its own function for the sake of the survival of all other living things on earth, such as forming rain to prevent harmful rays from reflecting radio waves to reject the harmful effects of meteors entering the earth.

In accordance with the verses of the Al-Qur'an above, modern science reveals 7 layers are troposphere is the lowest layer of the earth's surface to a thickness of 12 km. This layer stratosphere is at an altitude between 15-55 km. In this layer there is ozone gas that functions to absorb ultraviolet radiation which reaches the earth is far reduced. Ozonosphere is part of the Stratosphere layer which functions to absorb the sun's ultraviolet rays. Mesosphere, this layer has a height of 55-80 km, in this layer more and more the air temperature drops. Termosphere, This layer is at an altitude of 80-800 km. In the innermost layer of the thermosphere called the termopause which reaches temperatures of more than 500 Celsius. Ionosphere is a layer of the process of ionization of air atoms by x-rays and ultraviolet rays emitted by sunlight. Exosphere is the outer layer of the earth at an altitude of 800-1000 km. In this layer the higher the air and the smaller the influence of gravity. After this layer there is a vacuum. This layer is often referred to as interplanetary space. This layer is very dangerous, because it is a place of destruction of meteors from outer space (Supriyanti, 2014).

C. The Expanding Universe, the perspective of Science and the Al-Qur'an

Scientific research based on the calculations of physicists and astrophysics in the 20th century, provides a new description that the universe we live in is always increasing in size or always expanding with the evidence of galaxies getting farther away at speeds close to the speed of light (approximately 300,000 km per second). The size of this universe no one knows and cannot imagine how vast and large so far. The cosmos/universe includes everything from the smallest particles, which are smaller than atoms to a collection of stars in the universe. Including the Earth in which humans live is part of the Milky Way galaxy because its cluster is similar to a path filled with milk.

For thousands of years people only believe that the universe we live in is static or remains in position. Until the intellectual revolution, Edwin P. Hubble did his observations by observing the spectrum of stars in other galaxies named Cygni 6140, through modern telescopes found that the Milky Way galaxy, is not the only galaxy that exists but a galaxy of several hundred thousand million galaxies. We live in a galaxy that is about one hundred thousand light-years wide and rotates slowly.

Research conducted by Edwin P. Hubble based on the laws of physics, observes that the distance of the stars from the earth to the light source that is moving toward the observer tends to be purple, while those away from the observer tend to be red (Figure 1).

This observation provides an explanation that the light of the stars has been reduced, where the size of the redshift of the galaxy (red-shifted) by the Doppler effect is done not randomly, but directly proportional to the distance of the galaxy from us. In other words, the 2 Cygni 61 twin stars shifted away from each other and moved away from Earth. The farther away the galaxy is from the earth, the greater the speed of motion, so that there is a speed of one hundred thousand kilometers per second (approximately equal to one third the speed of light).

We can observe a simple analogy from a car passing on the road. When the car is approaching, the engine sound will be louder, this is related to the higher frequency of sound waves and when the car passes us and moves away, the engine sound will weaken. The behavior of light or light waves is the same as sound. This proves the constant expansion of the universe. Eventually the distance between the
different galaxies increases or continues to grow over time (Susanto, 2012). Higher and more expanding at incredible speeds, like balloons or rubber bubbles that are being blown in all directions (Shihab, 2013).

A similar analogy is also presented, Stephen Hawking by giving an example with the parable of a rocket rising from the surface of the Earth. If the rocket has a low enough speed, gravity will stop the rocket and the rocket will start falling back to the surface of the earth. Conversely, if the rocket has a speed greater than the critical speed, which is about 7 miles / second. Gravity will not be strong enough to pull it back, so the rocket will continue to rise. So this scientific proof also breaks the opinion that the universe does not have a beginning and an end (Hawking, 2016; Ahmad, 2016).

The expansion of the universe was hinted at by the Al-Qur'an which was revealed around 610 AD or 1,400 years ago. Although the facts above were only discovered in the 20th century.

Meaning:
"And the heaven We constructed with strength, and indeed, We are [its] expander". (Adh-Dhariyat: 47)

The form isim fa'il with the mashdar meaning in the word lamuu'si'uun (we really expand it). In the above verse the word shows the meaning of the continued expansion of nature from its inception until one day according to God’s will. As the explanation of science, the verses of the Al-Qur'an also state the development of the universe. This is supported by empirical observations (Juoro, 2011).

D. The Big Crunch, the perspective of Science and the Al-Qur'an

The extinction of the universe is still a mysterious question for western scientists in the 19th century. H. Bondi and Fred Hoyle from Cambridge University in 1948 introduced the Steady State Theory saying that the cosmos has no beginning and has no end, but is seen as permanent and will continue to exist forever. Even George Politzer's hypothesis in his book "principes foundation taux de philosophie" says that the cosmos is not something that was created, but immediately exists from nothing (Susanto, 2012).

The cosmos will come and go in the form of hydrogen atoms in space, forming new galaxies to replace old galaxies that move away from us in their expansion (Tjasyono, 2016). At least this theory lasts long enough. Before Islamic scientists found that the Al-Qur'anic explanation was not the case, it denied the existence of the creator and stated that the universe had no beginning and no end.

Renowned physicist Boltzmann assumes continuous temperature changes on every object from hot to cold, and not vice versa, indicating the universe is not eternal as long as there is heat. Therefore, hot temperatures cannot exist by themselves formed from cold temperatures. In addition, if the word nature is eternal, surely this nature is cold, there is no heat that we can find. At that time, there will be no chemical or natural processes. This is what marks the end of the cosmos, so it does not rule out the possibility of the universe dying. In the Islamic world better known as the phenomenon of doomsday, namely the event of the end of the age of the universe by blasting in extremely high temperatures and the theory of this event is given the name Big Crunch. The immortality of nature is one proof that the universe created, that God exists (Hawwa, 2008).

Thus, unintentionally, scientific theories are in accordance with the Al-Qur'anic information, concluding that the universe is not eternal and has a beginning. Everything that starts must be someday will lead to the end that has been determined. However, sunatullah or natural law will apply. The destruction of the cosmos is like a spinning wheel slowly and gradually getting faster, until finally reaching a very high speed. Destruction of the earth and the disappearance of the heavens will be replaced by the heavens and the other earth at the time of the coming, which is said to be the Day of Judgment.

The end of the cosmos has an explanation similar to the big rip theory. The anti-gravity force which continues to experience exponentially accelerating defeats the gravitational force. The mountains scattered like feathers. Even humans are flying because there is no more gravitational force. The force acting at that time was an anti-gravity force which tore objects including humans. This is the beginning of the destruction of the cosmos, which the Al-Qur'an shows begins with the destruction of the
mountains that form the foundation of the earth, accompanied by the destruction of the heavens, galaxies, stars and earth.

Conclusion
The Big Bang Theory as the origin of the creation of the universe has continuity with the information provided by the Al-Qur'an that the cosmic universe was created from a huge explosion that occurred after the universe was formed. This indicates that the Al-Qur'an is always relevant to scientific truth. The singularity of the creation of samawa wa ar’d, has a regular explanation between Science and the Al-Qur'an and science. Theories presented by science have correlations and reinforce each other, to reach the stage of the faith of haqiqi on the content of the Al-Qur'an which cannot be doubted. The cosmos which is always expanding and increasing in size today until the appointed time shows the similarity of information between science and the Al-Qur'an. The Big Crunch or the destruction of the universe, will occur slowly and gradually, until finally reaching a high intensity of extinction evenly. The explanation of this theory is explained earlier by the Al-Qur'an in the verses which are spread out in several surahs.

References