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MANICKAVASAGAR AN ASTROPHYSICIST

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Abstract : Manickavasagar – A Saint , Philosopher, and Chief Minister who belongs to the 9th Century through his “Thiruvagam”, he substantiates that he is also an Astrophysicist. He explains the origin of Planets from the Universe in the third chapter “Andappagudhi”. He is the first person to discover the Earth’s shape as “Spherical“. He praises Lord Shiva found all over the World both as a Tiny Particle (Atom) and as a huge thing (universe). He also speaks about the Expanding Universe and infinite number of Galaxies.

Key-words : Universe - Galaxy - Planets–Earth – Stars – Big Bang Theory – Spherical – Infinite – Atom - Scientists –Geography .

Astrophysics is a Science about Space which includes laws of Physics and Chemistry to explain the creation, existence, life and death (saturation) of stars, planets, Galaxies, Nebula (bright area in the night sky that is caused by a mass of dust or gas or by a large cloud of stars that are far away).Astronomy and Cosmology are two pillars of Astrophysics (Cosmology is the science about the origin and development of the Universe) . Modern cosmology is dominated by the Big Bang Theory which brings together observational Astronomy and Particle physics.

Manickavasagar a Saint, Philosopher, Author of Thiruvagam was a ChiefMinister to the Pandya King Varaguna Varman –II (862 CE – 885 CE)and also called as Arimardana Pandian at Madurai. A “garland” made with love as string and the nectarine words as the Gem which is Thiruvagam constructed by Manickavasagar which has 51 titles and more than 600 versus considered to be the acme of devotion.



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Manickavasagar

Out of 51 titles (Chapters) the third Title is Thiru Andappagudhi that is Universe . In this Universe (Thiru Andappagudhi) Manickavasagar speaks about the Greatness , Subtle nature , Exceeding Grace, and Incomparable Nature of **Lord Shiva**.

THIRU ANDAPPAGUDHI - THIRUVASAGAM

Andappagudhiyin Undaip pirakkam
Alapparun thanmai valapparun kaatchi
Ondranuk kondru nindrezhil pagarin
Nootroru kodiya merpada virindhana
Il nuzhai kadhira thun
Anup puraiyach Chiriyavaagap Periyon - (1-6 Lines)
Translation by Rev G U Pope.

THE UNIVERSE

SIVAN'S FINE AND ULTRA-FINE OCCURRENCES

The Origin of the Sphere from the ingredients of the Universe. It's limitless nature and bountiful fact. If one admires its beauty in all occurrences. It escalates to infinity. The hanging atoms are visible on the light Ray which enters thatched hut. So He prevails all over the world as tiny particle.

General Meaning:

From the above we arrive two conclusions. 1) The almighty found all over the world both as tiny particle and huge things. 2) **His** greatness and **His** Grace cannot be compared to anything in the world. The above lines speak about Big Bang Theory, Expanding Universe, the spherical shape of our Earth , Spreading Universe, Infinite number of galaxies (A hundred million in number) Minute elements, Thronging Atoms, Subtle existences, Immeasurable nature and so on.



Geography: The universe is gigantic, huge, and exceedingly large in which our galaxy is a small part. In our galaxy we have Sun, planets, stars, moon (every planet has a different number of moons), asteroids and meteors. Without this universe we would not have had Physics or Chemistry or any kind of law or life. It is the curiosity of human that gave them the ability to look beyond the present.

Big Bang Theory :

The Big Bang theory is an explanation that shows the origin of stars, planets Galaxies and the universe as a whole. Scientist believes that the Big Bang was the very beginning of the creation of this universe. Scientist states that the Big Bang occurred about 13.73 billion years ago. But this is mentioned by Manickavasagar in 9th century itself in Thiruvagam .

Scientists believe that the Big Bang started with nothing, no space, no matter no time and no energy.



Expanding Universe:

There was a very tiny Hotpoint consisting of matter which had the potential to become something. This point then burst into the creation of Universe. This Big Bang started time, created space and energy. Atoms began to form as soon as the point burst. After a certain period of time galaxies begin to form, then planets later life started on earth.

**Stephen Hawking**

Scientists like **Stephen Hawking**, George Ellis and Roger Penrose researched on Big Bang Theory and they created mathematical calculations to prove this theory. Around 13.7 billion years ago everything in the entire universe was condensed in an Infinitesimally small singularity, a point of infinite denseness and heat. Suddenly an explosive expansion began ballooning our Universe outwards faster than the speed of light. (Speed of light is 2,99,792,458 km per second). This was a period of cosmic inflation that lasted mere fractions of a second - about 10^{-32} of a second, according to Physicist Alan Guth's theory. The light ray was not able to reach the same place of burst because the expansion of the Universe is faster than the speed of the light Ray. So it is called Expanding Universe. This **Expanding Universe** is mentioned by Manickavasagaras "More than a hundred million in number spread abroad". In Tamil "Nootroru kodiya merpada virindana" Manickavasagar uses "Virindana" for expansion. We can say hundred million is infinitive i.e. Universe is still expanding.

Manickavasagar as Astrophysicist:

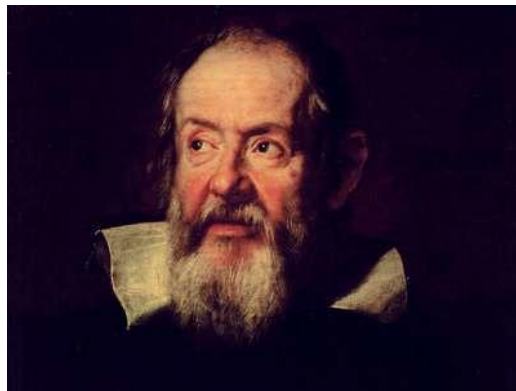
The first line : Andap pagudhiyin undaip pirakkam **Andam:** The word "Andam" has been mentioned by Manickavasagar in very early period (9th century) for the word Universe of the later century scientists.

Andap pagudhiyin undaip pirakkam : (The development of the sphere of the elemental Universe. G.U.Pope) .The above line explains the Development of sphere (planets including Earth) from the Elements of Universe. Manickavasagar confirms that the shape of the Earth is spherical in 9th Century itself by the word "undai" which means round or spherical.

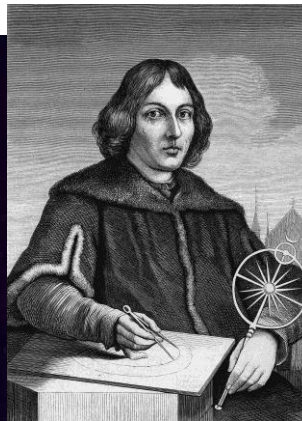


Earth

Famous scientists like Galileo and Nicolas Copernicus discovered the spherical nature of Earth only in 17th Century only . The word “pirakkam” means origin or birth.



Galileo



Copernicus

The second Line : ‘Alapparum thanmai valap parun kaatchi’ “ (It is immeasurable nature and abundant phenomena“. G.U.Pope) The development of spherical planets are immeasurable. They are seen in abundance. According to Big Bang Theory there are many galaxies in the Milky Way. They are moving further and further away. Present day Scientists also says that 90% of the things in the universe cannot be seen. So they are abundant and immeasurable. Manickavasagar also says in **The fourth line**: Nutroru kodiyin merpada virindana “ (More than a hundred million in number spread abroad. G.U.Pope) this also confirms the Universe expands in hundred million in number.

The Fifth Line: “Ill nuzhai kahirin thunanu puraiya Siriyavaaga Periyon “: (The hanging Atoms are visible on the Light Ray which enters the thatched Hut. So He prevails all over the world as tiny particles). The above lines speak about the minute Atom. Manickavasagar deploy the word “Universe” for huge things and “Atom” for minute things and conveys that God exists in both the “Forms”. **Same thought in Sivapuram** : In the first Chapter of Thiruvagam Manickavasagar confirms this large and Tiny size of Lord in 35th Line of Sivapuram .



Thirty Fifth Line:

“Iyyaa! ena Ongi Aazhndhu agandra Nunniyane “ Lord
Rising Sinking Spreading subtle One - G. U. Pope Meaning :
Ongi -means rising upward direction Aazhndhu - means Sinking downward
directions agandra-means spreading in all sides.

If we draw a picture of the above we will get Expanding Universe with infinite measurements in all directions ie upward, downward and in all sides . This is **His** enlarged size.The Last word of the 35th line is Nunniyane which means minute particle which cannot be seen by naked eye. Thus Manickavasagar combines the Large Universe and Tiny Particle to show Almighty’s nature .

The knowledge of the 9th Century Tamil Saint Manickavasagar about Expanding Universe, Particle Physics (Tiny Particle is the part of Large Universe) Planets Origin, Earth shape , Infinite number of Planets, is very Astounding when compared to present day Scientists.

CONCLUSION ;

Manickavasagar an **Indian, Tamil Saint** who belongs to 9th Century. Through his great work Thiruvagam explains many scientific truths about Space and Universe. He Confirms the Origin of Planets from the Expanding Universe and also by expansion they are in multiples of Crores and in turn there are infinite number of Galaxies. This was the discovery of present 21st Century Scientists. He is the first person to discover our Planet Earth is Spherical in shape even before Galileo and Copernicus . Thus he Proves

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