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Cosmic Dance and The Universe

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S. Subbulakshmi, MA., MSc., B.Ed., M.Phil., Ph.D.

Director, School of Music and Fine-Arts
Vels University (Vistas), Chennai, Tamil Nadu, India

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 <https://orcid.org/0000-0003-3277-0926>

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Abstract

Hindu religion is the only one in the world has the idea that Cosmos itself undergoes an infinite number of death and rebirths. It is the only religion in which the time scales correspond to those of modern scientific cosmology. The cosmic dance of Nataraja is not a random motion but it is beautifully choreographed movement by law of nature. Nothing in the universe has been created but only transformed from one form to another. So creation and destruction is only a transformation. It is said that the Nataraja is the embody of inner process of human being. The galaxies are moving just like the movement of cosmic dance. It is like the birth and death and our consciousness forming and reforming. Nataraja is called the Cosmic Dancer because it is the most powerful form of dance intriguingly eclectic, keeping everything in the Universe intact. In Physical Science a Subatomic Particle is a particle that composes an Atom. Every subatomic particle not only does an energy dance but is also a pulsating process of creation and destruction without end. The electrons by diffusing around the nucleus forms the unstopped dancing movement. So for the modern physics the dance of cosmic dancer is a dance of subatomic matter. His dance symbolizes the daily rhythm of birth and death and the cosmic cycles of creation and destruction. Cosmic dancer seems to be real as he continually keeps creating and dissolving the forms in the external flow of his dance.

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Introduction

The creativity of Indian Sculpture is at its Zenith that the Kinetic Nataraja Statue and still Buddha statue both images which have been full focus of devotion. Nataraja statue is rich with symbolism. It is said that the Nataraja is the embody of inner process of human being. The galaxies are moving just like the movement of cosmic dance . It is just like the birth and death and our consciousness forming and reforming. Nataraja performs his Cosmic dance with a balanced harmony and dynamics of his still movement, captured with his locks flying widely have made the images of the divine dancer one of the most recognized Indian Icon. The Nataraja' s locks wide spread on sideways from his head is suggested to be the wild gyrating movement of his dance called A nanadath ndav , a wild dance of bliss. The Nataraja's locks fall on his shoulders and down on his back suggesting a th ndav with much softer quieter movement. The house of Nataraja is Chidambaram which is Space one of the Panchaboothas (Earth, Water, Fire, Air and Space)

CERN Natarajaand Cosmic Dance

As a symbol the CERN Nataraja combines in a single image Shiva's role as a creator , preserver and destroyer of the Universe. And conveys the Indian conception of never ending cycle of Time. For the modern physicists Nataraja's dance of Subatomic matter is the figure of Nataraja enclosed in aring of fire which represents the creation and destruction of the Universe. The mass, space and time are enclosed within this cosmic ring of Fire.

A nandathand v of Nataraja means the Dance of bliss that symbolizes the cosmic cycles of creation and destruction as well as daily rhythm of birth and death. Nataraja is seen as a Cosmic Dancer responsible for the existence of the Universe with his untiring and uninterrupted dancing . The statue has a metaphorical meaning ranging from spirituality to Physics. He is called the Cosmic Dancer because it is the most powerful form of dance intriguingly eclectic, keeping everything in the Universe intact. The Universe consists of matter and we are all matters . Antimatter is which cancels out the matter. Through this rhythmic , ecstatic Cosmic Dance CERN is trying to figure out the subatomic particles and antimatter. For modern physicists Nataraja’s cosmic dance is the dance of subatomic matter.



Ananda k. Coomaraswamy seeing beyond the unsurpassed rhythm, beauty, power and Grace of Nataraja he says “ It is the clearest image of the activity of God which any Art or religion can boast of” Carl SagansaysHindu religion is the only one in the world has the idea that Cosmos itself undergoes an infinite number of death and rebirths . It is the only religion in which the time scales correspond to those of modern scientific cosmology.

Ilya Prigogine says Nataraja depicts that source which is a perfectly balanced cosmic dance.

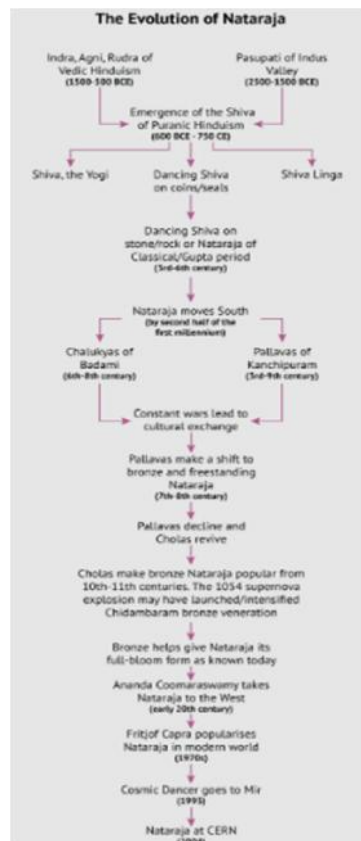
History of Nataraja Statue

The classical form of depiction appears in a pillars of rockcut Temple at Seeyamangalam-Avanibhajanapallaveshwaram temple constructed on 6 th century is the oldest one in India which is known by Archeological survey of India. The stone

reliefsatEllora caves and Badami caves by around 6 th century is also oldest. Ancient texts (Thavaram) speaks about Nataraja temple at Chidambaram before 7th century. In 8 th to 10th century it emerged in Tamilnaduwith best expression in Chola period as Bronze statues. It is also seen in South East Asia - Angkor wat and in Baliu., Combodia, and central Asia.



Badami – Nataraja Chola– Bronze Nataraja



Symbolism

The cosmic Dancing of Natarara is the dancing of Universe with ceaseless flow of energy going through an infinite variety of patterns . The dancing figure with four arms whose superbly balanced and yet dynamic gestures express the rhythm and unity of life . The upper right hand holds a drum to symbolize the primal sound of creation and the upper left hand hold a tongue of flame the element of destruction. The balance of hands represents the dynamic balance of creation and destruction. He dances with in a circular closed arch of flames (praba mandala) which symbolically represent the cosmic fire that creates everything and consumes everything in cycle of life according to Hindu Cosmology. His bent legs suggests an energetic dance. His matted tresses are shown to be loose and flying out in thin strands during the dance , spread into a fan behind his head because of the wildness and ecstasy of the dance.



Drum in Right hand Flame in Left hand

Origin of all Movements

Cosmic dance said to be the origin of all movements. The closest analogy we can give to the phenomenon of creation is Indian classical dance. In this the dancers may seem to be just moving their hands and legs about at random. Externally it seems to be nothing but a movement. But by close observation we can find there is a very deep coherence to everything. If the coherence is absent we cannot enjoy the dance. The dance with that geometric aesthetics will impact the viewers in a certain way and make them involved. Like the Dance the creation is absolutely random and accidental but by close observation, everything seems to be synchronized in someway. This is some kind of coherence to everything. Because creation is dance, we said divine is a dancer, the Nataraja.

Fusion of Male Female Power

Cosmic dancer with one of his ears sports a male ear ring while in the other ear there is a female ear ring it is representing the fusion of male and female powers.

Microcosm and Macrocosm

It is the constructional theory. Microcosm and Macrocosm analogy refers to a historical view which put forward a structural similarity between the human being (the smaller order) and the cosmos as a whole (the greater order). Microcosm is something small that contains or represents all the features of something larger. If we take an atom, a human being, an elephant, the common fundamental design is the same . It is only the complexity that increases in sophistication . The microcosm and macrocosm are the same designs .

Circle and Cosmos

In the depiction of Nataraja there is a circle around him The circle is always the symbol of cosmos because when anything moves , the most natural form that happens in the existence is a circle. Circle is the shape of the planets , the earth, the sun ,the moon and so on. So the circle around Nataraja symbolize the cosmos. He is the cosmic dancer. We can say that cosmos is a dance and the dance is guided by certain matters.

Nataraja represents the exuberance of creation, the dance of creation which is self- created from the eternal stillness. Nataraja dancing in Chidambaram is very symbolic because we call Chidambaram is just absolute stillness that is space (nothing) so creation is created from nothing.

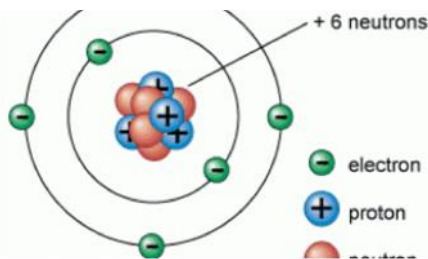
Atom and Cosmic Dance

Cosmic Dance and Nuclear forces

According to latest theories in Physics there are four fundamental forces in Nature -electromagnetic force, gravitational, strong nuclear force and weak nuclear force. A force is interaction between particles. This is how the particles interact or relate with each other. The electrons of an atom are attached to the protons in an atomic nucleus by the electromagnetic force. The proton and neutrons in the nucleus are attached to each other by nuclear force. This

forces are usually stronger than the electromagnetic force. Positively charged particles (protons) attract negatively charged particles (electrons). But positively charged particles repel other positively charged particles. All charged particles in motion create an electromagnetic field which binds electron to a proton to form an atom. It is the electron which attracts the proton from a neighboring atom to form the force. The four forces of nature regulate all interactions between matter and forces. Mathematical regulations are the notations of the choreography of cosmic dance. The choreographers are the laws of nature. All the phenomena are the results of this cosmic dance.

Sub Atomic Particles and Cosmic Dance



In Physical Science a Subatomic Particle is a particle that composes an Atom. They are nothing but a particle which is smaller than an atom in size. Atom can be broken down into 3 sub atomic particles Protons, Neutrons, and Electrons. They are smaller than the atom. Protons have positive charge (+) and Electrons have Negative charge (-). The important subatomic particle is Electron which has negative electrical charge. Subatomic particle found in two places that is the proton and Neutrons at the center of the atom whilst the electrons diffuse around the nucleus. The electrons are much lighter than a proton and neutron. Electron is one of the most important subatomic particle. It is very small compared to proton and neutron and it is 1800 times smaller than them. Another word for sub atomic particle is fundamental particle. Every subatomic particle not only does an energy dance but is also a pulsating process of creation and destruction without end. The electrons by diffusing around the nucleus forms the unstopped dancing movement. So for the modern physics the dance of cosmic dancer is a dance of subatomic matter.

Nature and Cosmic Dance

The life is a cosmic dance. It is every particle in nature is reacting out to every other particle creating a beautiful cosmic dance. The cosmic dance is not a random motion but it is beautifully choreographed movements and the movements obey laws of nature. Nothing has been created in the Universe as new. But only transformed from one form to another. So creation and destruction is only a transformation from one form to another. The laws are fixed but the dancers and dancing change. The dance never stops.

According to Stephen Hawking Science has unmasked nature to reveal that behind the many forms everything is alike. Every electron, proton and neutron is the same as every other electron, proton and neutron. All forms are made of the same building blocks which are connected and interact through forces. We ourselves are a mere collection of fundamental particles of the universe. Every atom in every cell in our body is entangled with atoms in other bodies and the objects of the universe. The dance is fluid, the movement is continuous, the particles (atoms) changing positions at every opportunity. The dance is endless and the music never stops.

This is represented as cosmic dance of Nataraja. The cosmic dance represents the dynamic flow dance of the universe. The dancing universe is a ceaseless flow of energy going through an infinite variety of patterns which merge into one another in a dynamic universal interplay. His dance symbolizes the daily rhythm of birth and death and the cosmic cycles of creation and destruction. Cosmic dancer seems to be real as he continually keeps creating and dissolving the forms in the external flow of his dance. If the cosmic dancer is replaced for an atom the particles of the atom interact with finite space and linear time to effect movement in the world.

God Particle and Creation

The elusive God Particle discovered by Scientists in 2012 has the potential to destroy the Universe. Famous British Physicist Stephen Hawking has warned that at a very high energy level God Particle which gives shape and size to everything that exists could become unstable so it could destroy the Universe. This God particle helps to give mass to all elementary particles like electrons and protons. Higgs boson is

often called God Particle because it is said to be the one that caused the Big bang and that created our Universe many years ago. A big bang is a destruction to nothing and the Universe is created from that nothing. According to the Scientist Capra “Modern physics has shown that the rhythm of creation and destruction is not only manifest in turn of the seasons and in the birth and death of all living creatures. But is also the very essence of inorganic matter”.

Cosmic Dance and Tamil Literature

There are many tamil texts speaks about cosmic dance of Nataraja.

Arpuda Thiruvandadhi

O Lord ! When you lift your Foot the neither World gets unhinged

When you shake your head the vault of Heaven bursts

When you flex your braceleted Hand the great Directions

Are rent the Forum Trembles! play Dance with care (ArpudaThiruvandathi- 77)

The above hymn is constructed by a female saint poet Karaikkal Ammaiyar of 5 th century. She conveys a very big Scientific truth through this Hymn. The whole hymn speaks about the cosmic dance of Nataraja. Here the cosmic dance is performed in the earth (planet)which is the stage or forum for the Dancer. The poet is instructing the dancer like a teacher to adhere the rules of bharatanatyam. She advises if you lift your foot abnormally the underworld gets unhinged , If you shake your head unnaturally the vaults of the heaven bursts, and if you flex your hands all the directions get entangled. So she is directing him to dance carefully. The above Hymn is giving a clear picture of cosmic dance of the planet Earth which is rotating in a perfect motion. The cosmic dance is guided by a Guru or teacher. The dance get spoiled when there is an error while dancing . Like that the planet is governed by laws of nature. When there is a change in nature it will get spoiled. She uses the word“ the forum trembles” that is the whole world become shattered.

Thirumandiram and Cosmic Dance

Thirumandiram is coined by Thirumoolar one of the Siddhar belongs to ancient period. He is connecting the yoga and dance. He is comparing the spiraling movement of energy as it rises up in the spine in human which is called Kundalini yoga to the allusion of dancing. (cosmic dance of Nataraja) The image is said to embody the inner process by which the coiled kundalini or serpent power is released or straightening. Some of the Thirumandiramhymns which express the cosmic dance.

Paramaandatthoode Padartharu N dam

Paramaandatthoode Para Nadam adume - 2732

The cosmic dance and the music(n dam) are pervaded in the entire Universe.

Andangalorezhumamporpathiy ga

PandaiA g sangalIyndumpathiy ga

ThondinirSaththithiruvambalam ga

KonduaranjothiKoothugand ne - 2743

He loved to perform the cosmic dance pervading the entire universe .

A gasam mudalang rmuyalagan

Ek sam nathisaiettuthirukkaigal

Mog yamukkangalmoonrolith n ga

M k yamandruNadanseikindrane - 2774

The cosmic dancer performed at a place of Space (stage) with muyalagan as anger, all eight directions as hands ,three eyes as moon ,Sun, and fire inside the heart of human.

Nakkeerar and Cosmic Dance

Nakkeerar asangam poet of Madurai in his Kailaip diK latthip dispeaks about cosmic dance.

Th londr looduruvathan Visumbil

Th londr landangadanduruvi - Tholondr l

ThikkanaithumporkumthirarK li

K latthiNakkanthankandaNattam - 88

This is about the cosmic dance of K lahasthi Nataraja one of the panchaboothasthala (air). He reminds the scientific fact that is expressed in Arpudathiruvand di. Nakeerarsays with Nataraja’s difficult and frightful spinning movements one foot will penetrate the underworld, the other foot will pervade above the universe and with one hand shatters all directions.

Thev ram and Cosmic Dance :Cosmic Dance and ThirugnanaSambandarThev ram :M nadam:

Thirugnanasambandar refers his dance asM nadam. M means enlarged, very astonishing covering the entire universe. It can be explained that a dance which cannot be performed by an ordinary human. In Sambandarthev ram

- 1) M nadam is mentioned in many places - (3 - 48 - 6) - (2 -58 - 7) - (2 -7- 2) - (2 - 96 - 3)
- 2) Needum nadama diya - (3 -115 - 3)
- 3) M madama davalla - (2 -5 1-3)
- 4) Mannum nadama di - (3 -22 - 7)
- 5) M nadam di - (2 -29 - 4)
- 6) Eriendhim nadam dum - (2 -50 - 11)
- 7) Puyangar gamanadanattam - (1 -53 - 8)
- 8) Manadam dumvitthagana - (2 -102 - 7)

Perunadam

Some Sambandar hymns speaks about the Cosmic dance asPerunadam . Peru means very large or big. In this dance sambandar explains cosmic dancer's left foot touches the space that is the upper part of the planet and his right foot on the ground touches the underworld. This is the enlarged vision of cosmic dance of Sambandar. This dance also has very difficult foot movements, spin and spiral movements which will make the universe tremble.

1. Perunadama diyaperuman- (1 -15 - 3)
2. Nadamunarasuzhalaa duv r (spiral movement) - (2 -120 - 5)
3. Adivinnodumannumellam pudaipadaa da vallan- (3 -52 - 6)
4. Kadunadam (difficult movements) -(3 -116 - 76)
5. Suzhalmalguma dal r (spiral movement - (2 -56 - 3)
6. Perunattam diyai - (4 -81 - 1)

Cosmic dance and Appar Thev ram-Appar was the first person to glorify the beautiful dance of Aananthathandava. He laud and appreciate Nataraja as

- 1) Kunitthapuruvamum kovvai sevv yil kumizhsirippum Panittha sadaiyum pavalam pol meniyil p lvennirum Inittha mudiyaeduttha Porp damum - (4 - 8 - 4)

Appar praises the cosmic dance as

- 2) Kanam tthiraiyiladangumadi Ahalamalakkilp rill adi - (6 - 6 - 7)

Kanakuvazhakkai kadandaadi

Neel visumbaioodurutthaadi - (6 - 6 - 3)

In the aboveKana m tthiraiis a single unit of T la or rhythm. It is a very minute small measurement in rhythm. Nataraja while dancing his foot can be controlled by single small unit of rhythm. It is like an atom which can be called microcosm. But if we measurehis foot it pervades through the whole Universe which is un measureable which is macrocosm. The whole structure of universe contrasted with a small representative of it. In the next line Kanakku Vazhakkai Kadandameanshecan not be measured. He is beyond measurement. Neel visunbaiooduruttha means his foot penetrate the space on top of the world.

- 3)A yiram tholummattithu a diyaasaivutheera A yiramadiyum vaitthaadigal - (4 - 53 - 10)

The cosmic dance is performed with thousand hand movements in the universe along with thousand foot steps in Thiruv rur.

- 4)Thinthol gala yiramumveesinindru Thisai sera Nadama di- (6 - 45 - 1)

In Thiruvotriyur he dances with thousand hands which while dancing smashes all the directions.

- 5)K ladhirkazhalgal A rpakanalerikaiyilveesi Gnalum Kuzhiyanindru Nattamäduaädukindra Melavarmugaduthoyaveesisadaithisaigalpa ya - (4 - 37 - 7)

This is one of the fearful spinning dance of cosmic dancer. Because of the complex footwork of Th ndav , the ankle bells roar, the earth becomes hollow space so one foot protrudes the underworld , his head penetrates over the top of the world and all directions merged and shattered.

Cosmic Danceand Sundarar Thev ram SundararThev ramand Cosmic Dance

Sundararpraises that he dances beyond the universe or cosmos.

- Andatthu Andatthin Appuratthu Aädum- (7- 12 - 2)

Here Andamis cosmos and appuratthu means beyond. So he is dancing within and beyond Universe.

Conclusion

Nataraja's cosmic dance is the dance of sub atomic matter . The sub atomic particles are the electrons in

the nucleus. The electrons always shows movement inside the atom by moving around the nucleus. This movement is formed because of the interaction between the particles. Positively charged particles attract negatively charged particles and thus create movement. So there is a perfect rhythmic movement seen in between this particles. According to modern physicists Nataraja's cosmic dance is the dance of subatomic matter. The figure of Nataraja is enclosed in a ring of fire which represent the continuous creation and destruction of the universe. The mass, space and time are also enclosed with in this cosmic ring of fire.

The cosmic dance is not a random motion but it is beautifully choreographed movement by law of nature. Nothing in the universe has been created but only transformed from one form to another. So creation and destruction is only a transformation. By blast or destruction (big bang) one form will become invisible sub atomic ashes from that ashes (nothing) new form will arise. Nataraja 's dance represents the dance of universe. The dancing of universe is a ceaseless flow of energy going through an infinite variety of patterns which merge into one another. Nataraja's dance symbolizes the daily rhythm of birth and death and cosmic cycles of creation and destruction.

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Author Details

Prof.S.Subbulakshmi, MA., M.Sc., B.Ed., M.Phil., Ph.D., Director, School of Music and Fine-Arts, Vels University (Vistas), Chennai, Vidwan No - 232757, **E mail ID:** kavinthree@gmail.com, director.music@velsuniv.ac.in.