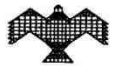


# Consciousness, Experience and Ways of Knowing

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# Art and Archaeometallurgy of Nataraja: Exploring Visual Metaphors for Consciousness

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## **Nataraja and Visual Approaches to Consciousness**

The 10th century Chola metal image of Nataraja from Tamil Nadu in southern India, which is often described as the 'Cosmic Dance of Siva' represents one of the most artistically acclaimed and widely known symbols of Indian culture, art and religion, which has invited the attention of artists, dancers, scientists and philosophers in India and the world over. Famous sculptor Rodin extolled the Nataraja in an essay 'La Danse de Siva' while Ananda Coomaraswamy in his exposition *The Dance of Siva* (1924) described the image 'as poetry but none the less science'. This paper attempts to show that the Nataraja religious icon provides a unique historical case study in exploring perspectives from art and philosophy in attempting to not only arrive at an understanding of notions related to the consciousness and the cosmos, but also to thereby provide something of a visual metaphor for apprehending abstractions. Of course not all these metaphors were necessarily part of its original conception but it is interesting to note that there has been this process of accretion of symbolic meanings over time: in fact continuing right into modern times as clearly seen in the writings of physicists such as Capra (1974) finding parallels with modern cosmology in this medieval icon while Sagan (1980) saw in it 'a premonition of modern astronomical ideas'.

This paper also significantly points out that the symbolism associated with the Nataraja in some ways attempts to reconcile the duality of the inner space of the consciousness with the exterior space of the world or cosmos out there: which according to this author is in a way a concern that can particularly be traced back to the aesthetic sensibilities of the remarkable corpus of classic Tamil Sangam poetry (c. 3rd century BC-AD). A modern painting, 'Cosmic dance' by the well known Belge painter and Indologist Jean Letschert-Ascharyacharya who trained with the famed Belge Surrealist René Magritte indirectly captures these notions. The face of the Siva Nataraja in this painting is depicted in a way that is almost reminiscent of the transcendental calm of the Avalokitesvara painting in the Buddhist caves of Ajanta: depicting the inner space of the supreme consciousness outwardly radiating and manifesting itself in through dancing, swirling, patterns of cosmic blues and cosmic phenomena. A comment by Jean Letschert from his abstract submitted for this conference provides a useful contextual framework for this paper. He makes the point that we can derive two epistemological approaches to the understanding of consciousness, one that is essentially verbal and rational and the other that is basically visual, analogical and evocative, which is the realm into which Indian religious iconography essentially falls. In his essay 'A journey through vision' Jean-Letschert suggests that the symbolic dimension of works of art (which in his case are partly influenced by religious iconography and partly by Surrealism), come to life through an inner dimension of dynamic interactions between dream and reality, symbol and substance. The Nataraja, with its symbolic aspects is a very good example of such an evocative, intuitive approach to consciousness.

However, as far as this paper is concerned, what is addressed is more of a historical problem rather than the implications for consciousness research per se. Ananda Coomaraswamy (1924), drawing from 13th century Saiva Siddhantic texts had described the Nataraja icon as representing the *anandatandava* which he interpreted



as the dance of bliss within the consciousness. Although it has been generally believed that such mystical connotations of the Nataraja icon came into prominence around the 13th century, when the worship of the Nataraja at Chidambaram came under more overtly Sanskritic influences (*chit*: consciousness and *ambaram*: cosmos), this paper instead argues that such notions were already in vogue by the 8<sup>th</sup> century Pallava period, particularly from the hymns of Tamil saints, such as Manikkavachakkar, and from astro-archaeological evidence while briefly reflecting on the role of Saiva Siddhanta rituals. In particular the influences going back to indigenous dualist concepts of Tamil Sangam poetics (c. 5th c. BCE-5th c. CE) exploring the interior space in relation to exterior space are explored, since consciousness is ultimately an awareness of the interior mindscape as being distinct from the world 'out there'.

### **Symbology of Nataraja's *Anandatandava***

Based on 13th century Tamil Shaiva Siddhantic texts such as Unmaivilakam composed at Chidambaram where the dancing Nataraja image is worshipped, Coomaraswamy interpreted the icon as Shiva's *anandatandava*; (*ananda*: bliss; *tandava*: Shiva's awesome dance), depicting the five acts or panchakritya, creation symbolised by the drum, destruction by the fire, protection by the front right arm, solace by the crossed left arm, dispelling of ignorance by trampling of the demon, with the ring of fire representing perpetual cosmic cycles of creation and destruction. Ananda Coomaraswamy (1924: 87) in his essay 'Dance of Siva' says: 'The dance in fact, represents His five activities (Pancakritya) viz: Shristi (preservation, support), Samhara (destruction, evolution), Tirobhava (veiling, embodiment, illusion and also giving rest), anugraha (release salvation, grace)... Unmai Vilakam, verse 36, tells us: 'Creation arises from the drum: protection proceeds from the hand of hope: from fire proceeds destruction: the foot held aloft gives release'. Coomaraswamy's notes go on as follows: 'The Supreme Intelligence

dances in the soul...for the purpose of removing our sins. By these means, our Father scatters the darkness of illusion (maya), burns the thread of causality (karma), stamps down evil (mala, anava, avidya), showers Grace, and lovingly plunges the soul in the ocean of bliss (ananda). They never see rebirths who behold this mystic dance.'

Fritjof Capra in his *Tao of Physics* (1975) brought Nataraja into the global limelight and has brought into vogue another contemporary post-modernist symbolic dimension to this age-old image which has in its own way acquired a life of its own. Fritjof Capra wrote daringly that: "For modern physicists, then, Shiva's dance is the dance of subatomic matter...". A photograph in this book shows a shower of hundred particles produced in a cosmic ray shower which found its way into a bubble chamber by accident which left behind a dense series of downward parabolic tracks emerging from something like a single source. This visual is rather interesting in the way it is reminiscent the rear view of the flying matted locks of the dancing Siva issuing out of the head of Siva, as if they were both visual metaphors for the web of the 'cosmic consciousness' or 'supreme intelligence' extending or manifesting itself outwards from a single source into numerous directions.

### **Questions of Dates and Original Significance of Nataraja**

From the historical perspective the question is relevant as to what the origins and original significance of the Nataraja metal icon were and the extent to which its formulation was really informed of a 'cosmic' or scientific comprehension. Coomaraswamy's 'cosmic' interpretations are not without problems as they derive from 13th century texts whereas the Nataraja icon is best known from the Chola period (10th-11th century). There have been other readings of the significance of the Nataraja as a political statement of the martial prowess of the Cholas (Kaimal 1999). The *Tevaram* hymns of Tamil saints to Nataraja (c. 6th-9th century) sometimes portray Siva as something of a social outcaste, even a madman wandering around



cremation grounds: which can be interpreted as attempted subversion of the caste system and Brahmanical order which laid grounds for the Bhakti movement of salvation through intense devotion to a personal god rather than ritualistic worship.

There are also problems with the dating of the Nataraja icon itself. Since south Indian Hindu metal icons are rarely inscribed, there have been problems in stylistic dating which is done with respect to stone. For clarification, the Nataraja icon refers to the dance of Siva with the leg lifted across the hip in the specific dance pose known as *bhujangatrasita karana*.

The author's paper in World Archaeology journal (Srinivasan 2004) for the first time put forth comprehensive insights from archaeometallurgical, astro-archaeological and literary studies to suggest that the origins of the Nataraja metal icon goes back to the Pallava period (c. 800 AD) predating the Chola period (c. 10th-11th century) that it is usually attributed to. The paper also briefly suggested that its formulation by this time was indeed nascently understood in terms of a 'cosmic' or metaphysical dimension by pointing to the significance of some examples of early Tamil poetry of the Saivite saints, c. 6th-9th century such as Manickavachakar (c. 9th century) and Appar (7th century).

### **Technology in the Study of Nataraja: Pallava Origins**

Under the 10th-11th centuries Chola rulers, technology came to the aid of religion with the prolific casting of Hindu metal icons. Metal icons of Hindu deities were made in early medieval Tamil Nadu in southern India for being carried out in processional worship amongst devotees after being elaborately decorated. The worship of Siva, was propagated by Tamil Saivite saints of the 6th-9th century, while Siva Nataraja was the family deity or *kuladvata* of the Cholas. Several thousands of fine solid bronze images were cast by the lost wax process by skilled *sthapathis* or traditional icon makers, as still

seen in Swamimalai. The stages of lost wax casting stage include the making of a wax model which is covered in clay to make mould and the mould is then heated and dewaxed and molten metal is poured in the mould to make the image. A great patron of Chola bronzes and temples was the Chola queen Sembiyan Mahadevi (c. 940 AD) under whom the first rounded stone Nataraja sculptures were made.

A technical finger-printing and authentication exercise on Chola and South Indian bronzes was undertaken by the author on around 130 images as reported in her doctoral thesis (Srinivasan 1996) which was the first such comprehensive study in the world. The sampling procedure used was of micro-drilling using a drill bit of no more than 1mm thick in inconspicuous parts of the icon to retrieve about 20-50 mg of sample and going to a depth of 1 cm into the main body of the icon, for instance, the armpit. The advantage that this technique had over the previous techniques is that it aided the analysis of bulk or interior composition while ensuring that sampling was undertaken with minimum damage to the artefact and the procedure was undertaken successfully even on very delicate artefacts in reputed collections including Victoria and Albert Museum (50), Government Museum, Chennai (70) and British Museum (10). Thereafter bulk compositional analysis was done using ICP-OES, i.e. inductively coupled plasma atomic emission spectroscopy with drillings being made into solutions for analysis. Major, minor and trace elements were analysed for 18 elements of Cu, Zn, Pb, Sn, Fe, Ni, As, Sb, Bi, Co, P, S, Cr, Mn, V, Cd, Ag. Another technique applied was lead isotope ratio analysis which is useful because the lead isotope ratios of leaded artefacts vary discretely according to the source of lead, providing for clusters of artefacts which have been similarly processed. Lead isotope ratio analysis was undertaken for sixty of the selected images (Srinivasan 1999). It was found that discrete metallurgical profiles could be indentified based on the trace element composition and the lead isotope ratios for different stylistic groups such as Pallava (7th-mid 9th century), Imperial Chola (late 9th-mid



12th century), Late Chola (mid 12th-13th century), Vijayanagara (mid 14th-16th century), Nayaka and Maratha (16th-19th century).

This technique validated the existence of Pallava bronzes as distinct from Chola which had been debated by historians. It was also found that Chola bronzes have a discrete metallurgical profile from Vijayanagar bronzes and from Late Chola bronzes. An example of a Pallava image whose dating was ratified by technical analysis is the

Kuram Natesa, Chennai Museum which was authenticated to the Pallava period (c. 7th century). A Pallava copper plate was found at Kuram lending weight to this. Interestingly, this study indicating that two Nataraja images which were previously regarded as 10th century Chola were in fact more likely Pallava based on the lead isotope ratio finger-prints. One of these is the Kunniyur Nataraja in the Government Museum, Chennai. Although this was thought to be 10th century Chola, technical finger-printing supports a Pallava attribution, ie. late Pallava, c. 800-850, in the most mature phase of Pallava metal casting.

#### **Nataraja and the 'Cosmic Consciousness'**

Archaeometallurgical and lead isotope studies by the speaker suggested a Pallava attribution (c. 8th century) for a Nataraja bronze from British Museum making it the earliest known Nataraja icon. The star chart for Orion was mapped onto this bronze in collaboration with astrophysicist Nirupama Raghavan which gave an excellent fit. This suggested that the Nataraja iconography was mapped around star positions like a wire frame (Srinivasan 2003) and suggested an intriguing 'stellar' inspiration for this bronze. The star, Ardra or Betelgeuse, in the constellation Orion is linked to the mythology of Nataraja with a chariot processional festival at the Nataraja temple at Chidambaram. The Nataraja temple at coastal Chidambaram in Tamil Nadu is the only site where a bronze Nataraja is worshipped in the sanctum, next to which is worshipped a curtained space



representing Shiva as 'akasa lingam' or space. The idea of Nataraja's dance representing cosmic creation and destruction is well captured in the following 9th century hymn by Manickavachakkar (Dehejia 2003: 103):

Let us praise  
the Dancer... (Kuttan)  
who sports  
creating  
destroying  
this heaven and earth  
And all else...

– Manikkavachakar, Tamil, 9th century

Apart from the worship of Siva as *akasa lingam*, one of the meanings of the site name Chidambaram itself may be related to the idea of Siva as the cosmic consciousness (*chit*: consciousness; *ambaram*: cosmos) (Srinivasan 2001). Although it is generally thought it was through later 12th-13th century Sanskritic influences that the more beatific associations of the worship of Nataraja at Chidambaram came into vogue, linking the cosmos and the consciousness (Kaimal 1999, Younger 1995), according to the author there is evidence that such ideas were already a part of the Tamil tradition by the Pallava period predating later Sanskritic attributions, as seen in Manikkavachakar's 9th century verse (Yocum 1983: 20) which refers to the Tamil word *unarve* implying the one comprehension rather than the Sanskrit word *chit*. The terse and moving verse below conveys the idea of a supreme consciousness which is beyond the realm of ordinary words and comprehension as we understand it. It points to the way even words can fail to describe the indescribable which seems a real problem in the realm of consciousness studies, given that consciousness lies more in the realm of the felt, experienced, or even visually articulated, rather than that which can be described through language:

O unique consciousness (*or unarve*),  
which is realised (*unarvatu*) as standing firm,  
transcending words and (ordinary) consciousness (*unarvu*),  
O let me know a way to tell of You.

– Manikkavachakkar, 9th century, Tamil (22:3)

### **Saivite Agamic Rituals as Activation of the Consciousness**

Temple practice in early medieval Tamil Nadu followed the Saiva Siddhantic canon of worship following the agamas. Indeed, the complex rituals prescribed in *agamic* worship related to the Siva and Nataraja can be seen as attempts and ways to negotiate the transition from a state of inertness (*jada*) to an animated state (*chit*) and the activation of the consciousness by imbibing Siva's nature which is itself consciousness. This is compared to the primeval act of striking fire from stones in this evocative translation of a passage from the Saiva Siddhantic text of Kamikagama (Davis 2000: 146): 'One should know that the divine glance distinguishes between what is inert (*jada*) and what is animate (*chit*) through Siva's own power of vision. Sprinkling upward renders an object suitable (for offering to Siva) by separating it from *jada*. Striking brings about the manifestation of *cit* in that object, as the striking of stones (manifest sparks) and sprinkling downward nurtures these sparks still more'. Davis (2000: 146) goes on to add: 'The transformation of normal food into *naivedya*, then, requires that the worshipper remove it from its normal status as inert matter and infuse into it the animating energy of consciousness. This process instills 'Siva-ness' into the substance since Siva's own nature is consciousness, and thereby makes it suitable for intimate contact with Siva'.

### **Sangam Literature Insights: Cosmos-Consciousness as Inner-Outer Space**

This author would like to suggest that it is also relevant to keep in mind the early dualist Tamil poetic ethos to understand aspects



of nature mysticism linked to worship of Nataraja and the linkage between the cosmos and the consciousness discussed above. Tamil Sangam poetry (loosely dated from about the 5th century BC-5th century AD) makes a separation between the *akam* genre (i.e. the intimate inner space of love and intimacy) and the *puram* genre (i.e. the outer space of the heroic and bardic). This recalls to dual aspects of Siva worship in Tamil Nadu, of the aniconic, unitary lingam (ie. cosmic pillar with phallic associations) in the intimate sanctum and of processional images outside, and of the invocation of Nataraja at Chidambaram as consciousness (inner space) and cosmos (outer space).

A.K. Ramanujan's translation of Tamil Sangam poetry as the example below from 'The Interior Landscape' (1967: 108-9) well illustrates this sense of traversing effortlessly from the interior mindscape of love to the exterior landscape of cosmic vistas, from the expansive macrocosm outside to the microcosm suggested by the world of the bees.

Bigger than earth, certainly,  
higher than the sky,  
more unfathomable than the waters  
is this love for this man"of the mountain slopes  
where bees make rich honey  
from the flowers of the kurinci  
that has such black stalks.

In a similar vein, some of Manikkavachakar's 9th century verses written several centuries later also traverse the space from the exterior to the interior as for example the verse by Yocum (1984: 30) cited below which not only confirms the link between the worship of Nataraja and concepts related to *akam* or the inner space of the consciousness from Tamil Sangam poetics but also explains how this Indian tradition holds dance to be the most sublime way of experiencing and realizing this link and connection between inner and outer space.

He...revealed His foot which is like a tender flower,  
caused me to dance  
entered my innermost part (akam)  
became my Lord.

### Conclusion

The above analysis indicates that in many aspects the art, rituals and iconography of the Nataraja manages at subliminal levels to link the inner space of the consciousness with the exterior realm of the phenomenal world, providing extraordinary and highly contemporary visual metaphors for abstract and intangible concepts. In a historical sense this is a unique achievement of the religious artistic expression of medieval Tamil Nadu to the corpus of worldwide articulations on consciousness. It is found that Sangam concepts of interior mindscape and exterior landscape are a useful tool to explore the unique ways in which the ancient Tamil traditions, including Nataraja worship, emerged as a way of attempting to reconcile the dualities of the mind or consciousness inside and the cosmos or world outside.

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