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**India's Doctrine of *Rasa* and Neuroaesthetics:
A Comparative Analysis of Bharatamuni's 'Subjectivity'
and Ramachandran's 'Universality' of *Rasa***

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India's Doctrine of *Rasa* and Neuroaesthetics: A Comparative Analysis of Bharatamuni's 'Subjectivity' and Ramachandran's 'Universality' of *Rasa*

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Abstract

The major contribution of Bharatamuni's *Nāṭyaśāstra* is the theory of '*Rasa*'—“rapture or aesthetic pleasure, intellectual enjoyment, mysterious delight or bliss and illumination” (Masson and Patwardhan, 1970). Bharatamuni says that *Rasa* can only be experienced “by a sympathetic audience member who would taste the rarefied essence of an emotion through a process of generalizing and abstracting the commonality between their own experience and the emotional experience represented through the work of art.” Modern scholars opine: “The conception of *rasa* is general and furnishes the criterion by which the worth of all forms of fine art may be judged” (Hiriyana, 1997). Envisioning Neuroaesthetics as a unified “theory of human artistic experience”, Ramachandran (2010), a neuroscientist, avers that art elicits universally positive responses, for “evolution had hardwired the mechanisms for appreciating art into human brain.” According to him, “all art is caricature.” He argues that “artists, making use of this truth create visually pleasing images that more optimally titillate the visual areas in the brain”, which in turn “produce[s] the experience of beauty” in the viewer. He thus considers even *rasa* as an abstraction of physical traits: the image's “essential features” and therefore, contends that *rasa* manifestation is also universal. Against this backdrop, the current paper argues that though human beings are hardwired to “experience beauty”, the intensity of such experiences is not uniform, for there is a certain “sublime” notion embedded in it and thus infers that '*Rasa*' being the ultimate aesthetic state of consciousness is not universal.

Keywords: Bharatamuni, *Nāṭyaśāstra*, *Rasa*, Abhinavagupta, Sahrudaya, Sthaayibhaava, Navarasas, Neuroaesthetics, Ramachandran's nine laws of aesthetics, 'artistic universals'.

Introduction

Nāṭyaśāstra is a Sanskrit treatise of India's performance arts. Its authorship is attributed to the sage-poet, Bharatamuni. It is indeed considered as a sacred text being authorised by gods. Its composition is believed to be anywhere between sixth century B.C.E to the second century C.E. It talks about everything of *nāṭya*, 'dance-theatre-music': right from theatre architecture to how to perform the various emotions to the structure of drama, music, costumes, and more is elaborated upon.

Though the impact of *Nāṭyaśāstra* is very much alive with the performers, the manual as such was literally lost for quite some time. It has come to light mostly through the commentaries of Abhinavagupta and his earlier interpreters such as Bhatta Lollata, Srisankuka and Bhatta Nayaka.

Bharatamuni's major contribution to Indian aesthetics is his theory of *rasa*. He decocted the meaning of the multifaceted word, '*Rasa*' in a single sentence: "*Rasayate anena iti rasah (asvadytva)*—That which is relished is *rasa*" (*Nāṭyaśāstra*, 28). Etymologically, *rasa* means anything that flows. In Sanskrit, *rasa*'s connotation has a wide spectrum including taste, delight and sap. It is said to be quintessence and life-breath of every element in a play. It denotes the emotional content, the potential of aesthetic experience: for a reader or spectator, *rasa* is relish of the emotional experience presented through the art-data (Bhat, 1984). In Bharatamuni's view, *rasa* is so vital to the act of dramatic creativity that—"nahi rasaadrte kascidarthah pravartate / ... (Bharatamuni, 1:6-32)—no meaning can be derived without *rasa*."

According to *Nāṭyaśāstra*, *rasa* can only be experienced "by a sympathetic (*sahrudaya*) audience member who would taste the rarefied essence of an emotion through a process of generalizing and abstracting the commonality (*sadharanikarana*) between their own experience and the emotional experience represented through the work of an art."

As against this, envisioning Neuroaesthetics as a unified "theory of human artistic experience", Ramachandran (2010) avers that art elicits universally positive responses in viewers, for "evolution had hardwired the mechanisms for appreciating art into human brain." He avers that *rasa* is an abstraction of physical traits: the image's "essential features" and therefore contends that *rasa* manifestation is universal. Thus, Ramachandran's unified neuroaesthetics come in conflict with the proposition of *rasa* theory.

This paper shall now analyze this conflict dispassionately and attempts to show that *rasa* being the ultimate emotive experience, cannot be universal. The rest of the paper is organized as: I. *Rasa* and its connotations; II. How does *rasa* manifest; III. Neuroaesthetics: The growing science of art; IV. Ramachandran's "Neurological theory of aesthetic experience"; V. *Nāṭyaśāstra*'s 'Subjective' *Rasa* vs. Ramachandran's 'Universal' aesthetic response: discussions.

Rasa and its Connotations

The cardinal concept of Indian aesthetics is *rasa*. It is a kind of aesthetic emotion, which is *alaukika*, an unique and extraordinary delight, kindled by works of art. Bharatamuni has originally used it in connection with drama and poetry, but subsequently it has been applied even to other genres of art. ‘*Rasa*’ is translated as sentiment by Haas, passion by Jha, impression by Faddegon, savour by Ballantyne and Thomas, Stimmung by Jacobi, De and Nicoll, aesthetic experience by Gnoli, poetic emotion by Brough, and taste, flavor, relish, motif, interest, etc. by others (as quoted by Viswanatham, 1997, p. 407). According to Indian theoreticians, *rasa* is: “rapture or aesthetic pleasure, intellectual enjoyment, mysterious delight or bliss and illumination” (Masson and Patwardhan, 1970).

Viswanatha defined *rasa* in his *Saahityadarpana* thus: “*Rasa*, experienced by men of sensibility, is born of the dominance of the *sattva* principle (the state of harmony, goodness, purity, positive-attitude, luminous, serenity, peaceful, virtuous), is indivisible, self-manifested, compounded of joy and consciousness, untouched by aught else perceived, brother to the realisation of Brahman, and its very life is unearthly wonder” (as quoted in Rayan, 1972, p. 35).

Krishna Rayan simply puts *rasa* as response to art. It has all the features of the aesthetic experience familiar to Western philosophy—it is emotion objectified, universalised, and raised to a state where it becomes the object of lucid disinterested contemplation and is transfigured into serene joy; this is as far as the non-philosopher can get in defining the nature of the *rasa* experience (as quoted in Rayan, 1972, p. 35).

As an aesthetic experience, *rasa* refers not to the mere organic pleasure derived from tasting (*aasvaadana*), but signifies a kind of impersonal delight or objectified pleasure. Which is why it is not sufficient for an art to be merely agreeable and pleasant but it must also be beautiful. Thus *rasa* has become central to everything as is reflected in Abhinavagupta’s comment: “the meaning of poetry is *rasa*”.

According to *Nāṭyaśāstra*, *rasa* simply describes the cumulative aesthetic effect of a dramatic performance. It is *sui generis*. *Rasana* is *aprameya* (an unknowable entity). It is engendered in a process when an emotion is awakened in the mind in such a manner that it has none of its usual conative tendencies and is experienced in an impersonal, contemplative mood. As the contemplative self is free from all craving, striving and external necessity, it is blissful. And this bliss is different from the pleasures that one derives from the fulfilment of a need or passion (Chawdhury, 1965). Perhaps of this nature, it is considered as “extraordinary or unworldly” (Abhinavabharati, 6.34).

Rasa also has a metaphysical connotation: it is likened to the spiritual delight (*Ananda*) that the Upanishads talk about. The Upanishads hold that cosmic creation itself derives from *ananda* and has its being, life and sustenance in it. So, *rasa* or aesthetic experience at the highest level is *Ananda*—equal to spiritual delight. This conception of *rasa* is in perfect harmony with the assertion made in *Taittiriya* Upanishad, “*Raso vai sah rasam hievavam labdhva anandi bhavati*”

(II.7). To sum up, it is the totality of elements that weave the ‘organic’ unity of the artifact and the aesthetic experience evoked in the appreciator.

How does *Rasa* Manifest

Bharatamuni’s *rasa-sutra*, principle of *rasa* says: “*vibhaavanubhaava-vyaabhicaari-sanyogaad rasa-nispattih* (Bharatamuni, 1.6.32)—out of the union or combination of the *vibhaavas* (determinants), the *anubhaavas* (consequences) and the *vyabhicaaribhaavas* (transitory mental states) the basic emotion known as *rasa* is manifested.” Ballantyne translated *vibhaavas*, *anubhaavas* and *vyaabhicaaribhaavas* as excitant, ensuant, accessory; Jacobi as factor, effect, concurrent; and Gnoli as determinants, consequents, transitory (as quoted in Viswanatham, 1997).

Bharatamuni has, however, not clarified the concept of *sanyogaad* (union) and *nispatti* accomplishment of *rasa*, except to state: “*yathaa hi naanaa vyanjanausadhidravayasanyogaat rasanispattih / tathaa naanaabhaavopagamaad rasanispattih* (Bharatamuni, 1.6)—Just as the mixing of jaggery and other ingredients produces a potable substance (drink), in the same way the principal or dominant emotions—*sthaayibhaavas*—nurtured by the various transitory emotions are transformed into *rasa*.” Answering the question, “how is *rasa* tasted?” Bharatamuni’s response is: just as in the physical world a person enjoys the taste (of the *Rasa*) in expertly prepared foods, experiencing pleasure, likewise the receptive (*sahrudaya*) spectator tastes and enjoys the *sthaayibhaavas* (emotions) experienced through a multiplicity of *bhaavas* and *abhinayas* (acting, gestures).

As a result of this ambiguity, many theoreticians have tried to explain Bharatamuni’s aphorism on *rasa* in different ways. Noted among them are: Bhattalollata, Srisankuka, Bhattanaayaka, and Abhinavagupta. These four exponents differ amongst themselves in their interpretation of the two words of the *sutra*, ‘*samyoga*’ (combination) and ‘*nispatti*’ (manifestation) for which Bharata offered no explanation. Before studying the commentaries of these four theoreticians, it is perhaps in order to first examine in detail the other important elements of the *sutra*: (i) *Sthaayibhaava*, (ii) *Vyaabhicaaribhaavas*, (iii) *Vibhaava* and (iv) *Anubhaava*, for it facilitates better understanding of the commentaries.

Sthaayibhaava:

Sthaayibhaava means permanent or principal emotions that are inherent in all human beings. They lie dormant. They are also acquired by training or education. These *sthaayibhaavas* have psychological reality, for the modern psychologist McDougall noticed 14 types of basic instincts and 14 corresponding emotions. Ten of these instincts and emotions correspond to the ten *rasas* and *sthaayibhaavas* identified by Bharatamuni.

According to Mukherji (1966, p. 267), *sthaayibhaavas* are birth-gifts of man. They exist in the form of an impression and are called into play simply by exciting causes and circumstances. Giving a clear explanation about

sthaayibhaavas, Abhinava Gupta says that “everyone avoids contact with pain and tends towards experiencing happiness. All desire to enjoy themselves, which is because of ‘*rati*’ or delight. All people think highly of themselves and laugh at others. This is because of ‘*haasa*’—laughter. Everyone feels sorrow when one is deprived of the object of longing. This is ‘*soka*’ (sorrow). One gets enraged at the loss of something close to one’s heart. This is ‘*krodha*’—anger, and when one realises his inability, he becomes subject to fear. This is ‘*bhaya*’—fear. Then he/she resolves somewhat to get over the difficulties. This is ‘*utsaaha*’—enthusiasm. He/she has a feeling of repulsion when he/she meets with repugnant objects. This is ‘*jugupsa*’—aversion. One may be filled with wonder on certain occasions. This feeling is ‘*vismaya*’—astonishment. Ultimately, one may want to abandon something. This is ‘*saama*’—serenity” (Mukherji, 1966, p. 268).

These latent *sthaayibhaavas* are aroused at certain opportune times with the convergence of appropriate factors, viz., *vibhaavas*, *anubhaavas* and *vyabhicaaribhaavas*. Bharatamuni identified them as eight in number but Mammata added *Nirveda* as the *sthaayibhaava* of *saanta rasa*, making them in all nine. They are: *Rati* (love), *Hasa* (merriment, laughter), *Soka* (sorrow, grief), *Krodha* (anger, fury), *Utsaha* (enthusiasm), *Bhaya* (terror, fear), *Jugupsa* (disgust), *Vismaya* (Astonishment), and *Nirveda* (indifference/renunciation) (Bharatamuni, 71). These *sthaayibhaavas* represent the *rasas* as under:

Sthaayibhaava

- 1) *Rati* (love)
 - 2) *Hasa* (merriment, laughter)
 - 3) *Soka* (sorrow, grief)
 - 4) *Krodha* (anger, fury)
 - 5) *Utsaha* (enthusiasm)
 - 6) *Bhaya* (terror, fear)
 - 7) *Jugupsa* (disgust)
 - 8) *Vismaya* (astonishment)
 - 9) *Nirveda* (indifference)
- (Bharatamuni, 71)

Rasa

- Sringara* (erotic)
Hasya (comic)
Karuna (compassionate)
Raudra (wrathful)
Vira (heroic)
Bhayanaka (terrifying)
Bibhatsa (odious)
Adbhuta (marvellous)
Santa (tranquil)

Vyabhicaaribhaavas* or *Sanchaaribhaavas

These are transient emotions. These ancillary emotions do not leave any impression in the mind. Like waves, they rise from the ocean of the basic mental state and subside into the same. They—such as suspicion, jealousy, trepidation, etc.—appear for a relatively short period and disappear. They are known to heighten or fortify the *Sthaayibhaavas*. They are said to be 33 in number: *Nirveda* (Despondency or indifference), *Glani* (Weakness, languishing), *Sanka* (Apprehension), *Asuya* (Envy or Jealousy), *Mada* (Intoxication), *Srama* (Fatigue), *Alasya* (Indolence), *Dainya* (Depression), *Chinta* (Anxiety), *Moha* (Delusion), *Smrti* (Recollection, memory), *Dhrti* (Contentment), *Vrida* (Shame), *Capalata* (Inconstancy), *Harsa* (Joy), *Avega* (Agitation), *Gaiva* (Arrogance), *Jadata* (Stupor), *Visada* (Despair), *Antsukya* (Longing), *Nidra* (Sleep), *Apasmara* (Epilepsy), *Supta* (Dreaming), *Vibodha* (Awakening), *Amarasa* (Indignation),

Avahitta (Dissimulation), *Ugrata* (Ferocity), *Mati* (Resolve), *Vyadhi* (Sickness), *Unmada* (Insanity), *Marana* (Death), *Trasa* (Terror), *Vitaraka* (Trepidation)—(Bharatamuni, 72).

Vibhaava

The *vibhaavas* are the determinants that help in development of a feeling. They are the external causes of the experience of *rasa*. The word *vibhaava* stands for the dramatic situation (Pandey, 1995). For instance, assume the play *Saakuntalam* by Kalidasa is being staged. The hero Dushyant and heroine Sakuntala are on the stage. These two that are present on the stage and the setting constitute the *vibhaavas*. They are the source of *rasa*, for they arouse emotions in the reader/spectator in a manner quite different from that in which emotion arises in the actual life.

These *vibhaavas* are of two kinds: *aalambanavibhaava* (supporting) and *uddiipana vibhaava* (excitant). *Aalambanavibhaava* or object of one's attention is the proximate cause of the accomplishment of *rasa*. Example: Characters viz., Dushyant and Sakuntala. *Uddiipana* (highlighting) *vibhaava* intensifies the passions or emotions arising in the *aalambanas*. Example: The setting on the stage: the physical beauty of Dushyant and Sakuntala, the trees, flowers, and so on that appear on the stage make the scene look more romantic to the audience. It thus enhances the emotive effect of the focal point in the accomplishment of *sringara* or love.

Anubhaava

Anubhaavas are also related to the characters on the stage. All the physical changes in the hero and heroine that arise as a consequent to the rise of an emotion are called *anubhaavas*. In actual life they are known as the effect of emotion. The *anubhaavas* arise from the inner experience of emotions by the characters and are manifested as the mental and physical expressions of that process. According to Bharatamuni, *anubhaavas* are: *vaagangaabhinayeneha yatastvarthonubhaavyate/saakhaangopaanga sanyuktastvanbhaavastatah smrtah*—that which make one experience the internal *sthaayibhavas*. Example: The trembling of Sakuntala, the sweat seen on the forehead of Dushyanta, his words to her and so on indicate that they are in love with each other. It is these actions that enable the reader or spectator to identify himself with the characters in the play and experience the emotion of love.

These physical changes which follow the rise of an emotion are again of two kinds: 'voluntary' which are simply known as *anubhaavas* and 'involuntary' which are called as '*satvika bhaavas*'. These are inbuilt body responses and are eight in number: *Stambha* (Paralysis), *Pralaya* (Fainting), *Romanca* (Horriplation), *Sveda* (Perspiration), *Asru* (Tears), *Vairarnya* (Change of color), *Vipathu* (Trembling), and *Vaisvarya* or *svarahbanga* (Change in voice/breaking of the voice) (Bharatamuni, 72). These can take place only when the concerned emotion is actually present in the heart. They are indeed unmistakable reflections of inner emotive state.

With this understanding of the constituents of Bharata's cryptic *rasa sutra*, we shall now examine how the '*samyoga*'—combination of these elements takes place leading to '*nispatti*'—manifestation of *rasa* as enunciated by Bhattalollata, Sankuka, Bhattanaayaka, and Abhinavaguptain the *sahrudaya* by a literary text/play.

Bhattalollata's theory of *Utpattivaada* (origination/causation)

According to his *utpattivaada* that follows the philosophy of *Purva-Mimaamsa*, *rasa* belongs to the original personage of the play. A person, who has read or heard, say as in our example of the play *Sakuntala*, about Dushyanta and Sakuntala, knows the qualities and activities of them. When these characters are imitated by the actor and actress on the stage portraying various *vibhaava*, *anubhaava* and *vyabhicaaribhaavas*, the spectator deluded by the skilful action of the actor and actress takes them as the original personage and in the process enjoys *rasa*.

Here, interpreting the words '*nispatti*' to mean *utpatti*—origin, causation and *sanyoga* as *utpaadya-utpaadaka bhaava*—production/causation, Bhattalollata explains that as seeing a rope deluding it as a snake one fears, the actor and actress by virtue of their skilful acting deludes the spectator to take them as Dushyanta and Sakuntala and that cognation makes the spectator perceive *Sringaara rasa*. This explanation is rejected by later scholars on the ground that the production of *rasa* in spectator is not direct, for it is said to be resting with original personages of the play.

Sankuka's *Anumitivaada* (inference): Following the *Nyaaya* School of philosophy, interpreting the words *nispatti* as *anumiti* (inference), and *samyoga* as *jnapyajnapaka-bhava*, Sankuka states that the characters of the play and the actors on the stage are inseparable entities. But the spectator realizes that the *vibhaavas*, *anubhaavas* and *vyabhicaaribhaavas* exhibited on the stage are only the semblance of the original characters. Yet as the actors exhibit *anubhaavas* and *vyabhicaaribhaavas* so skilfully that the spectator tends to believe them as the original characters and accordingly infers *rasa* in them. In other words, as one seeing smoke infers fire in the hill, the spectator seeing the skilful action of the actors on the stage, infers them to be original personage and this cognation makes him enjoy *rasa*. Here too the spectator has no role in the manifestation of *rasa*. This explanation too is rejected on the ground that *rasa* derived inferentially cannot be equated with *rasa* manifested through direct perception.

Bhattanaayaka's *Bhuktivaada* (enjoyment): He defines '*sanyoga*' as *bhojya—bhojakabhaava sambandha*, i.e., the relationship of the object and the experiencer/enjoyer (*bhojaka*) of the *rasanispatti* process. He denotes *nispatti* by *bhukti*—the tasting /enjoying or experiencing of *rasa*. He condemned the theories of his predecessors hypothesizing that *rasa* is neither experienced, nor does it

arise/nor is it expressed, but is enjoyed/tasted through the process of *bhoga*, which is sublime, joyous and tranquil.

Using *abhida* (literal meaning) of words and two novel concepts of *bhaavakatva* (feeling) and *bhojakatva* (enjoying) he proposes his *bhuktivada*. According to him, the *abhida* assists the spectator in understanding the emotions of the characters (hero, heroine). The *bhaavakatva* process refines the literal meaning of the word by delinking it from the specific persons (hero, heroine) and universalizing it. He calls this universalization as *saadhaaranikarana*. He says that it is through this *saadhaaranikarana* that the spectator gets connected with the emotions of the characters.

Through this *bhaavakatva* process, the *vibhaava* (the hero, etc.) becomes universalized in the heart of the spectator. Bhattanayaka believed that there was *vilaksana* (an extraordinary power) beyond *abhida* (literal meaning) and *laksana* (figurative meaning) of the word and that is the *bhaavakatva* process. The process of universalization induced by the *bhaavakatva* process, which has universalized the *vibhaava*, *anubhaava* and *vyabhicaaribhaava*, also universalizes the *sthaayibhaava*. As a result, the *sthaayibhaavas* appear before the spectator not as the emotions of Dusyanta or Sakuntala but as a universalised emotion. This cognition of universalization ultimately leads to *bhojakatva* (enjoyment)—process of the spectator experiencing the *sthaayibhaavas* (permanent emotions) in the transformed form of *rasa*.

Relying on *Saamkhya* philosophy, Bhattanayaka says that a spectator, overawed by the *bhavana* or *bhavakatva*, which liquefies *rajas* (passionate) and *tamas* (dark) aspects of his constitution, imparts a uniqueness to *abhida* leading to generalization of *vibhaavas* and *sthaayibhaavas*, which in turn, dissipates the internal crisis resulting from one's selfish interests. Now under the surge of *sattva* (sublimity) the spectator tastes *rasa* that is sublime, luminous and tranquil. All this happens internally without letting the spectator realize the subtle stages of transition to the psychic realization of *rasa*. This blissful experience is said to be "akin to the spiritual Brahmic Bliss—*Brahmaananda Sahodara*." Though Bhattanayaka brought the spectator for the first time to the central stage of experiencing *rasa* through his exposition, his theory was rejected on the ground that he has not mentioned about the evocation of *sthaayibhaavas* of spectator (Apparao, 2000), at all, for without *sthaayibhaavas*, no *rasa* is possible.

Abhinavagupta's *abhivyaktivaada*: He explains the word '*sanyoga*' (combination) as *vyangya-vyanjaka*—a mode of expression and expresser and *nispatti* (manifestation) as *abhivyakti*—expression. In other words, the emotions are expressed in the form of *rasa* through the operation of *vyangya-vyanjaka* relationship. Taking a lead from Bhattanaayaka, Abhinavagupta appears to have developed his own theory of *abhivyaktivaada*.

His contention is that the reference to *nispatti* in the *rasa sutra* is not to '*rasa*', but to *rasana*—to the powers of cognitive chewing or tasting whose object is *rasa*. So, he says that the life of *rasa* is solely dependent upon *rasana*. *Rasana* is neither due to *pramaana vyapara* (means of knowledge) nor due to '*karika vyapara*' (verse-driven). *Rasana* is not the effect of a cause. It is self-generative—*sva samveedanasiddhavat*. *Rasana* is not an object and it does not reside in any

work or any mind. It is a dynamic process in which the mind enjoys equilibrium and peace.

Abhinavagupta admits that *rasana* is a ‘form’ of knowledge. It is *bodha* or consciousness of itself, but it is different from other forms of knowledge usually recognised. For, it is realised through the *vibhaava*, *anubhaava*, and *vyabhicaaribhaava*. These are different from other means of knowledge in common practice. So the claim of the *sutra* is that *rasa* is an extraordinary entity which is the object of *rasana*—cognitive chewing (Nandi, 1973).

Explaining how a *sahrudaya* experiences *rasa*, Abhinavagupta explains that when a *sahrudaya* reads a poem or witnesses a play, the *sthaayibhaava* remaining in the form of a latent impression in his mind is awakened by the depicted *vibhaava*. It is taken in its general form without specific connection. This phenomenon of ‘generalization’ excludes the individuality of the character of the play as well as the *sahrudaya*. In the words of Abhinavagupta, a sensitive reader [*sahrudaya*] entails a loss of the sense of present time and space. All worldly considerations for the timebeing must cease. But as one is not indifferent [*tatastha*] to what is taking place, one’s involvement must be of a purer variety than one normally experiences. As a result of this no personal involvement, the usual medley of desires and anxieties dissolve. One’s heart responds sympathetically [*hrdayasamvāda*] but not selfishly. As the response becomes total and all engrossing, one identifies with the situation depicted [*tanmayi Bhāvana*]. The ego is transcended, and for the duration of the aesthetic experience, the normal waking of “I” [*aham*] is suspended. Once this actually happens, one suddenly finds that his/her responses are not like anything he/she has hitherto experienced. For once all normal emotions thus gone, the hard knot of “selfness” gets untied, one finds himself/herself in an unprecedented state of mental and emotional calm. The purity of the emotion and the intensity of it takes one to a higher level of pleasure than hitherto known—one experiences sheer undifferentiated bliss [*ānandaikaghana*]. And this absorption, Abhinavagupta says, results in the aesthetic rapture of *rasā* (Masson and Patwardhan, 1969).

This experience overcomes all obstacles producing *viita vigna pratiiti*. Indeed, it is this phenomenon of generalization that enables a *sahrudaya* to experience *rasanubhuuti* even in *soka* (melancholy) for it loses its original material flavor.

Thus, realization of *rasa* depends on the “comprehension of *vibhaava*, *anubhaava* and *vyaabhicaaribhaava* and it lasts only so long as cognition of these factors lasts and ceases to exist when these factors vanish.” Abinavagupta states that “*rasa* is suggested by the union of the permanent mood (*sthaayibhaava*) with the *vibhaavas* through the relation of the suggested and the suggestor (*vyangya vyanjaka bhaava*)—in other words, the *pratiiti* of *rasa* is nothing other than ‘*abhivyakti*’, a manifestation through the power of synthesis, resulting in an extraordinary state of relish, known as *rasana*, *aasvaada* or *carvaana*” (Mukherji, 1966, p. 289).

In this whole process of experiencing *rasa*, the concept of *sahrudaya* plays a critical role. The word *sahrudaya* literally means ‘one who is of similar heart’. Abhinavagupta defines *sahrudaya*, sensitive spectator, as “those people who are

capable of identifying with the subject matter, as the mirror of their hearts has been polished through constant repetition and study of poetry, and who sympathetically respond in their own hearts.”

According to Abhinavagupta, a *sahrudaya* must have the following qualities: he must have taste or *rasikatva*, *sahrdayatva* or aesthetic susceptibility, power of visualisation, intellectual background, contemplative heart, the necessary psycho-physical condition and the capacity to identify oneself with the aesthetic object. The *rasa* theory states that to enjoy *rasa*, the reader/spectator must be a *rasika* of *sahrudaya*. For, according to it, it is the lack of sensitivity (*arasikata*), not the lack of earning, which is the greatest hindrance to aesthetic appreciation (Narasimhaiah, 1994).

Thus, the *rasa* theory, which is brought to its pinnacle by Abhinavagupta, who gave posterity a deep insight into the concept of *rasa* through his commentary on Bharatamuni’s *Nāṭyaśāstra* in *Abhinavabharati*, takes into consideration the whole literary process from its very conception in the mind of the poet to the artist to the ultimate perception in the heart of the reader/spectator. No one is left out—the genius of the text, the creativity of the actor in bringing out the essence of text on stage and finally the reader/spectator who savours (*asvada*) and enjoys the text/play (Patnaik, 1997).

Neuroaesthetics: The growing Science of Art

In the 1990s, neuroaesthetics emerged as a new science of “naturalization of the aesthetic experience”—connecting biology and aesthetics. It is a growing field of research concerned with the biological foundations of aesthetics and artistic activities (Nadal *et al.*, 2012). It is defined as the scientific study of the neural bases for the contemplation of and creation of a work of art (Suzanne, 2008). Nadal and Pearce (2011) define neuroaesthetics “as a discipline of research that examines the neural and evolutionary basis for cognitive and affective processes that occur when an individual takes an aesthetic or artistic attitude towards art, everyday objects or neural phenomena.”

Neuroaesthetics understands art as a by-product of the brain’s evolutionary function. It studies “brain mechanism that engages with the experiences of beauty” taking into consideration neurochemistry and cellular biology. Professor Semir Zeki, the renowned neuro-biologist from University College, London, and a pioneer in studying the human brain when it experiences art, argues that “all human activity is dictated by the organization and laws of the brain; that therefore, there can be no real theory of art and aesthetics unless neurobiologically based” (Zeki, 2002).

Neuroaestheticians appear to have taken the philosophy of Kant close to their chest, for his Universalist approach to beauty suggests a discrete neural basis. Prompted by questions—such as, “What does the viewer bring to a work of art?” “How does the beholder respond to it?”—neuroscientists, combining cognitive psychology and biology of the beholder’s visual response to art attempted to find out how we think and feel, and how we respond to and create works of art. Studies

in neuroaesthetics have also revealed that viewing art heightens secretion of dopamine—the feel-good chemical—in the orbitofrontal cortex resulting in feelings of intense pleasure. It is also learnt that this pleasure can be enhanced by stimulating the area of brain that regulates emotion. Scientists have also theorized that our “appreciation of art is an evolutionary adaptation, an instinctual trait that helps us survive”.

Normally, art is considered the domain of the heart, but its transporting effects start in the brain, where intricate systems perceive and interpret it with dazzling speed. Using brain-imaging and other tools of neuroscience, the new field of neuroaesthetics is probing the relationship between art and the brain. The early writings in neuroaesthetics by Zeki and Ramachandran have identified parallels between an artist’s approach to visual world and one’s own brain’s processing of visual information. It is also observed that artists quite often depict mental representation of an object rather than its physical form. Some are said to be using even perceptual tricks, perhaps implicitly. One such frequently used trick is: peak-shift principle where artists exaggerate certain features of the art object to enhance intended response. Bronze sculptures of the 12th century Chola dynasty in India—the goddesses with large breasts and hips and narrow waists that enhances female sensuality, grace, poise and dignity—are cited as one such example by Ramachandran for peak-shift principle.

Neuroimaging studies reveal that “appreciating art engages processes related to perception (attentional enhancement of the analysis of certain features), cognition (evaluative judgment, attention, and retrieval of information from memory), and affect (generation of pleasant feelings, emotions, representations and anticipation of reward, and awareness of one’s affective state). These processes are performed in parallel, they are highly interrelated, and they rely heavily on information feedback, making it impossible to describe any meaningful sequence of events” (Nadal, 2013).

That being the complexity of the judgement about aesthetics, philosophers, art theoreticians and art historians often criticize neuroaesthetics, for they consider art as a fundamental cultural construction. Indeed, some go to the extent of saying that art would be in principle not accessible to scientific or neurobiological enquiries (Massey, 2009). For, “as in many spheres of perception, the aesthetic experience arises from the interaction of diverse object-driven and subject-driven process ... may be creating experimental conditions that aim to tease these apart will only end up removing that which is truly aesthetic from the experience” (Nadal *et al.*, 2012).

That aside, most of the work under neuroaesthetics is currently confined to visual aesthetics, while there are other genre of art like music, literature, etc. calling for attention. It may also be true that “neuroaesthetics approaches the aesthetic phenomenon as a function that evokes psychic states involving perception, sensoriality, cognitive and emotional states in both the creator and observer, taking into account that these states have a neurological basis” (Semeler, 2017) but still, “It is an open question, whether an analysis of artworks, no matter how celebrated, will yield universal principles of beauty” (Conway and Rehding, 2013).

Ramachandran's "Neurological theory of aesthetic experience"

In an article co-authored with William Hirstein in 1999, Ramachandran, a prominent Indian-born American neuroscientist, argued that certain works of art elicit universally positive responses in viewers, for evolution has 'hard-wired' mechanisms for appreciating art into the human brain (Ramachandran and Hirstein, 1999, p. 15). According to him, aesthetic responses are not subjective, nor are they dependent upon culture, language, learning or practice. For, they are biologically determined and therefore they are exactly the same for everyone. He further states: "the details may vary from culture to culture" but there is still "a common denominator underlying all types of art" (p. 16).

According to Ramachandran, this 'common denominator' is that works of art "enhance, transcend or indeed...distort reality (p. 16)". So, he declares: "All art is caricature." (p. 18). "This is not literally true," he admits, "but ...it is true surprisingly often" (p. 18). He cites classical Indian art and aesthetics and African art as examples of caricature while averring that the "western art has to wait the arrival of Picasso" (pp. 16, 17). Ramachandran also states that many forms of art succeed because "they involve deliberate overstatement, exaggeration, and distortion designed to pique our curiosity and produce a satisfying emotional response in our brains."

Along with distortion or caricature as the first attribute of "attractive" art, Ramachandran lists seven others, which together comprise his "nine laws of aesthetics." They are: grouping, peak shift, contrast, isolation, perceptual problem solving, abhorrence of coincidences, orderliness, symmetry, and metaphor (Ramachandran, 2010, p. 200). He is of the opinion that these "nine laws of artistic experience" together operate at an automatic, unconscious level of artists. They are:

grouping—discovering of a figure among a noisy background—discovering correlated features in the visual field and binding those features to form a known figure—producing a "aha" sensation, and once discovered never to forget it as is the case with regard to rabbit in the moon;

peak-shift effect—it explains how brain responds to exaggerated stimuli—for instance, when rats are rewarded for discriminating a rectangle from a square, they will react even more to a rectangle that is longer and narrower than the prototype;

'contrast'—the brain detects boundaries best when the edges are distinct, especially for objects next to each other;

'isolation'—singling out one element helps the brain block other sensory information and focus attention, thereby magnifies our emotional reaction, especially when the element is simplified to bare essentials;

peekaboo—making something more attractive by making it less visible—partial concealment is liked more;

abhorrence of coincidences—our visual system tends not to like images that are highly unlikely—suspicious coincidences;

- orderliness**—a go-between of extreme regularity (that is boring) and complete chaos is often considered more attractive;
- symmetry**—being a marker, flag of say good health, which in turn being desirable, becomes attractive;
- ‘metaphor’**—linking seemingly unrelated elements can heighten emotion and empathy.

Ramachandran (2010) says that it is by adopting some of these tricks that artists create works of art to produce a universal experience of ‘beauty’ by hyper-activating neurons in the visual areas of the human brain. Summarizing the three core propositions of his theory (p. 201) thus: one, “internal logic” governed by universal rules, which is not disturbed by any amount of variation in cultural expression; two, “evolutionary function” that explains universal laws; and three, “neural mechanics”, that activate specific “brain circuitry” common to all human beings who have a properly functioning brain, he asserts that works of art obey universal laws.

On the strength of these propositions, Ramachandran argues that aesthetic experiences can be understood on the basis of brain science. He further states that artists, deploying his universal laws, “create visually pleasing images that more optimally titillate the visual areas in the brain compared with what he could accomplish using realistic images or real objects” (p. 199). According to him, it is the “titillation of visual neurons is what produces the experience of beauty.”

Along with the proposition of his ‘artistic universals’, Ramachandran also offers a definition for the Indian concept of ‘*rasa*’ as “the very essence of a thing” (Ramachandran and Hirstein, 1999, p. 16). Drawing the attention to ‘*rasa*’ or ‘essence’ of something in order to evoke a specific mood in the observer, he posits questions: “...what exactly does this mean? What does it mean to ‘capture the very essence’ of something in order to ‘evoke a direct emotional response’?” And stating that the answer to these questions provides the key to understand what art really is, their paper says: “...what the artist tries to do (either consciously or unconsciously) is to not only capture the essence of something but also to amplify it in order to more powerfully activate the same neural mechanisms that would be activated by the original object” (p. 17). From his statements—“essential features of an image”; “the ‘very essence’ (the *rasa*) of being feminine” (p. 18); and “the *rasa* of feminine poise and grace”—Ramachandran considers *rasa* as an abstraction of physical traits: the image’s “essential features” (Beitmen, 2014). It is this theorizing of *rasa* by Ramachandran as an objective, as the material property of the art object itself is what stands against Indian doctrine of *rasa* which according to its proponents is subjective and virtual—exists in the mind of the *sahrudaya*, the tasting subject.

***Nāṭyaśāstra*'s 'Subjective' *Rasa* vs. Ramachandran's 'Universal' *Rasa*: Discussions**

Indian *rasa* theory states that *rasa* is 'audience-centric'. As Dehejia observed, doctrine of *rasa* is basically, "viewer-response theory of art" and "responsive viewers are called *rasikas*—connoisseurs" (Dehejia, 1997). It means that *rasaanubhava* is subjective—there is a subjective qualification for objective appreciation. As against this, Ramachandran states that works of art elicit universally positive responses in viewers. According to him, aesthetic responses are not subjective, for human beings with a properly functioning brain obey certain universal laws that he has proposed while responding to works of art.

This assumption of Ramachandran appears to be farfetched, for "human experience is something singular which allows the raw specialised data collected by the eyes to be interpreted in an individual way." Therefore, as Semeler (2017) observed, "our everyday lives (environmental conditions) and our cultural experiences (social, aesthetic and cognitive-sensorial experiences) end up influencing the way through which we interpret the world." *Nāṭyaśāstra* asserts that "various classes of spectators" who by virtue of their relative gender, age, level of education, talents, dominant moods, motivations or life experiences, are able to appreciate different aspects of a performance (Bharatamuni, 520) resulting in manifestation of *rasa* differently in the spectators. However, for Ramachandran, *rasa* is the simple exaggeration of the "essence" of a material form and hence he states whoever perceives the exaggerated form of an art object grasps its essence and responds to it in an identical way. This is oversimplification, for "any attempt at understanding the cognitive process underlying human aesthetics, as a whole is best approached from a number of different perspectives at several different levels of analysis, always bearing in mind the need to relate these approaches to the human brain architecture that underpins and accommodates all facets of aesthetic experience and behaviour", asserts Jacobsen (2009). And there is no indication of any such attempt having been made by Ramachandran in the paper while formulating his theory, "*Rasa* is the essence of an art object."

Zaidel (2010) observes that the "symbolic content of a work of art draws the viewer's attention through its aesthetics. The latter is not deliberately 'placed' by the artist in the composition but rather reflects the sum total of the artistic virtuosity itself and an emergent 'aesthetic' property distilled in the mind of the viewer. In other words, the cues for the aesthetic contents are extracted by the mind of the viewer." Indeed, this is what even traditional *rasa* theorists explain: the *rasa* relished at the stimulation of the aesthetic object is *sahrudaya*'s own creation. As against the belief of Indian theoreticians that *rasa*, Ramachandran avers that "our brains are hardwired to appreciate art", and opines that even "people who claim not to like Henry Moore [sculpture] are closet Henry Moore enthusiasts." But owing to human brain having "many quasi-independent modules that can at times signal inconsistent information", Ramachandran says that they "are in denial about it" (Ramachandran, 2010, pp. 213, 214).

Cupchik *et al.* (2009) observed differences in brain activations when participants looked at art paintings in an “objective and detached” manner than in a “subjective and engaged” manner. They found greater activity in left lateral prefrontal cortex in the latter condition, which they regard as aesthetic, than when participants looked at paintings in a detached manner. Although the cognitive mechanism underlying this difference in activation patterns is not clear from the experiment, it demonstrates that the same object, when viewed under different conditions, can evoke different neural responses. This observation is a subtle pointer to no universality in aesthetic response that Ramachandran has proposed.

Traditionally, it is theorized that *rasa* is realized when an emotion is awakened in such a manner that “it has none of its conative tendencies and it is experienced in an impersonal contemplative mood” (Chaudhury, 1953, p. 78). As against this, Ramachandran says that artists by distorting the visual elements of reality, “optimally titillate the visual areas of the brain” and thus cause neurons to respond “even more vigorously” than they would to normal stimuli” (Ramachandran and Hirstein, 1999, p. 33). According to him, it appears that it is “the titillation” of visual neurons that produces the experience of beauty. This sounds oversimplification of the very act of appreciating beauty. For, “if neurosciences wishes to describe the nature of biological and psychological mechanisms underlying aesthetic experiences, it requires a framework that is able to account for visual and auditory experiences, but also for olfactory, gustatory, tactile, and kinesthetic experiences, as well as multiple and dynamic combinations of them” (Nadal *et al.*, 2012). And Ramachandran’s paper is silent about undertaking any such study/studies.

As the Sanskrit theoreticians of *rasa* speak about it as an unworldly experience, western philosophers too mention often notions such as “the sublime” while talking about aesthetics (Kant, 1790/1987). It has however little traction in Ramachandran’s neuroscience.

As Chatterjee observed, there are two important aesthetic aspects that merit active research by neuroscientists: one, emotional response to an aesthetic image and two, how aesthetic judgements are made. For, Chatterjee states that the present studies though show that “parts of dorsolateral and medial prefrontal cortex are involved in making aesthetic judgements, they do not sort out whether these brain activities are specific to aesthetic judgements or are part of neural systems that make judgements regardless of the domain under consideration” (Chatterjee, 2011). Though much has been said about visual processing and perception, nothing appears to have come out of research labs over these two important issues.

According to Sanskrit theorists, beauty is by nature subjective-cum-objective. In other words, perception of beauty is a bipolar phenomenon: the result of the operation of a highly responsive, sensitive mind on an inherently beautiful thing (Gupta, 2017, p. 13). As against this, Ramachandran asserts that beauty is generic. Ramachandran’s ‘theory of universals’ sounds as a ‘reductive’ theory of mechanistic processing and thus runs against the ‘non-reductive theory’ of *rasa* doctrine of India which is a dynamic and inter-subjective aesthetic engagement.

Interestingly, Hyman (2010) discussing at length about Ramachandran's generalization about art—"the purpose of art ...[is] to enhance, transcend, or indeed even to distort reality... not only to capture the essence of something but also to amplify it ... all art is caricature" (Ramachandran and Hirstein, 1999)—concludes thus: "Ramachandran's theory of art ...fails three times over. It fails because he has missed this fundamental point about what art is; it fails because his generalization about what works of art represent is not borne out by the facts; and it fails because even if the generalization were true, the peak shift mechanism would not explain why."

It thus becomes evident from the foregoing that the manifestation of *rasa*, as Ramachandran postulated, is not universal. As Sanskrit scholars believed, spectators are "dynamic co-creators" of the manifestation of *rasa* but not, as Ramachandran attempted to portray, "passive recipients." A need to experience beauty may be universal, but the manifestation of what constitutes beauty certainly is not", said Conway and Rehding (2013). That is where viewer becomes critical: as Semeler said, he "perceives the stimuli and interprets it in his own way" leading to individual variations in the manifestation of *rasa*. Incidentally, behavioural studies of Locher *et al.* (1999) and Hekkert and Van Wieringen (1996) show differences in the way that art-experienced individuals and art-naïve individuals engage with works of art.

Putting together all these arguments, it is in order here to say that a *sahrudaya* must have *rasikatva*, taste, aesthetic susceptibility and intellectual background to identify oneself with the aesthetic object and relish its beauty. Evolution process has no doubt hard-wired the *sthaayibhaavas*—basic sources of emotion in each of us but their excitement, particularly, the intensity of excitement is still governed by individual orientation towards a given object of beauty. And, hence manifestation of *rasa* is subjective and is not universal.

Conclusion

In the West the theory of beauty, or aesthetics, and the enquiry thereof has become a regular part of philosophy. Examining questions such as, "What are the characteristics of beauty? Is it objective or subjective?", etc., various theories of beauty have been propounded by Plato, Aristotle, Kant, Coleridge, Schopenhauer, Hegel, Croce, and others. Thus, discussions over these aspects make aesthetics, like ethics, an important branch of philosophy. As against this, in India, aesthetics does not form a branch of philosophy. They are mostly studied by a distinct class of thinkers called, literary critics. These thinkers have again confined mostly to examining beauty in creative literature. Investigating the source of beauty in literature, they have arrived at the conception of *rasa* as the utmost source of beauty.

Among such Indian thinkers, Abhinavagupta, having made outstanding contributions to the revision of Indian aesthetics, stands out as a jewel. It is he, who reviewing the commentaries of his predecessors on Bharatamuni's cryptic *rasa sutra*, offered elaborated explanation as to how the union of the

sthaayibhaava, permanent mood with the *vibhaavas* through the relation of ‘suggested and the suggestor’ *rasa* gets manifested in the *sahrudaya* through the power of synthesis resulting in an extraordinary state of relish. According to him, in order to relish the *rasa*, a viewer/ reader must have the same sensibility as that of the poet coupled with ability to delight in poetic beauty to realise *rasa*. And thus experiencing of *rasa* is not universal. Modern scholars opine that though *rasa* theory primarily evolved for tracing beauty in literature, “The conception of *rasa* is general and furnishes the criterion by which the worth of all forms of fine art may be judged” (Hiriyana, 1997).

As against these postulations of Indian doctrine of *rasa*, Ramachandran, an Indian born American neuro-scientist engaged in the pursuit of neuroaesthetics, arguing that the process of evolution had hard-wired the mechanisms for appreciating art into human brain, postulates that it is the caricature in the art that excites visual neurons leading to generation of *rasa* in the viewer. He therefore argues that there is no subjectivity in *rasa* production, for a functioning brain is hard-wired with the mechanism to appreciate beauty. This is of course refuted for, as Krishna Chaitanya said, “delight is an inward reality in the relisher [= the *sahrudaya*]. Beauty is objective when the beautiful object can evoke delight again and again. But the individuals who confront it should have the right sensibility” (Chaitanya, 1985, p. 55). Even neurologists like Anjan Chatterjee argue that behavioural studies show differences in the way that art-experienced individuals and art-naïve individuals engage with works of art.

Taking a holistic view of the foregoing discussions, it is logical to conclude that *Rasanubhuti*, relishing *rasa* is subjective. For, it is hard to believe that neuro-mapping alone can give universal principles of beauty and as Conway and Rehding (2013) observed “rational reductionist approaches to the neural basis of beauty ... may well distil out the very thing one wants to understand.”

Nevertheless, the dialogue that Ramachandran opened between science and art is indeed exciting and necessary. But what is required is: a non-reductionist empiricist neuroscience to better our understanding of art and its appreciation. As Chatterjee (2011) observed, neuroscience must explore to find how physiological properties of the brain and the psychology of aesthetics relate to each other. For, as Kandel (2012) said, such a “dialogue [between art and science] could help make science part of our common cultural experience.”

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