

# Mind and creativity: Insights from *rasa* theory with special focus on *sahr̥daya* (the appreciative critic)

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## Abstract

This article introduces a non-Western approach to mind and creativity, an approach inspired by the notion of *sahr̥daya* (the appreciative critic) found in the Indian tradition of aesthetics known as *rasa*. The *rasa* tradition is preoccupied with a virtual reality governed by the principle of non-duality (*advaita*), which we illuminate with another virtual reality—as formulated by the mathematical principle of symmetry in quantum mechanics. Far reaching implications of the principle of symmetry/non-duality for psychology in general, and psychology of creativity in particular, are explored.

## Keywords

aesthetic appreciation, quantum mechanics, *rasa*, symmetry, virtual reality

Admire as much as you can, most people don't admire enough.

(Vincent Van Gogh, cited in Howkins, 2010, p. 7)

Knowledge of art does not begin in enthusiastic admiration: it begins and ends there;  
enthusiastic admiration is the gamut, the alpha and omega.

(Fuller, 2011, p. 3)

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In the *rasa* (aesthetic savoring, see Sundararajan, 2010) tradition, the term *sahṛdaya* has been variously translated as critic, observer, reader, spectator, or one who savors (*rasika*) in the creative process. In all these roles, the essential quality of *sahṛdaya* is one who appreciates. To mark the difference between the garden variety of appreciation and the appreciative emotion embodied by *sahṛdaya*, the latter is usually referred to as aesthetic appreciation.

What lies at the core of aesthetic appreciation, as developed in the Indian theory of *rasa*, is the principle of *advaita* which refers to the non-duality of all things (Dehejia, 1996). Informed by the principle of non-duality, the aesthetic experience “is viewed as that state of joy where differentiations cease ... All duality of subject and object is lost, distinctions of physical time and space are eschewed, the finite and infinite merge” (Vatsyayan, 1998, pp. 167–168). Thus, in the *rasa* tradition, as K. Kapoor noted (personal communication, June 12, 2014), there are three words for the receptor of art, which in chronological order are: *prekṣaka*, “observer” or “spectator”; *sāmājika*, an auditor (part of a “social group”); and *sahṛdaya*, “empathizer” defined as one who has the same quality of heart and mind as the creator. Note the progression from the external reality in real time, inhabited by the observer and auditor, to the internal, virtual reality inhabited by the ideal critic referred to as the empathizer. By virtual reality we refer to the stimulus-independent ideal world, which in the context of Indian aesthetics (*rasa*) is a world in which the principle of non-duality reigns supreme.

The virtual reality of non-duality has direct consequences for our analysis. Put simply and bluntly, Indian notions of aesthetic appreciation require a different approach than that prevalent in mainstream psychology such as the analysis of occurrent emotions or reader’s response. First, the aesthetic appreciation of *sahṛdaya* cannot be adequately addressed by the protocol of appreciation emotions in mainstream psychology. Ortony, Clore, and Collins (1988) consider admiration as the most representative example of the appreciation emotions, which are said to include appreciation, awe, esteem, and respect. Algoe and Haidt (2009) consider admiration one of the “other-praising” emotions, including elevation and gratitude. These studies of appreciation emotions do not provide a suitable theoretical framework for our analysis, because aesthetic appreciation in the *rasa* vein is not an emotion that deals with the relationship between self and other in the world of facticity so much as a “we” emotion in the ideal world, in which the creator and the ideal critic are one in mind and soul. By the same token, the reader’s response is not a suitable framework for our analysis: aesthetic appreciation embodied in *sahṛdaya* is not concerned with the personality-contingent responses of the reader in the real world, so much as the responses of an ideal reader in virtual reality, to be elaborated later. Thus, V. N. Misra (1987), a noted scholar in Sanskrit and the Vedas, states that:

The tradition of poetics does not visualize *sahṛdaya* as an enjoyer [of literature], rather he is a man thrown into a situation where there is a tension between two selves, one that responds to his world of senses, and the other which responds to idealized world, a world of aesthetic constructs, a world of collective wisdom and a world of self-nothing and is merged into a Universal being. (p. 55)

How shall we approach such claims of folk psychology? One way to assimilate the folk concepts of *rasa* is to normalize them with terms of scientific psychology such as appreciation emotion, reader's response, and so on. A less utilized but arguably more valuable approach is accommodation (Sundararajan, 2009), which welcomes the potential challenge to received wisdom by taking the culturally different truth claims seriously. Resisting the temptation to assimilate the concepts from Indian aesthetics, we invoke quantum mechanics to argue the case that emotions in the *rasa* tradition cannot be understood through the familiar lens of the everyday any more than the effects of sub-atomic particles can be investigated at room temperature. This physics analogy is neither fortuitous, nor simply chiming in with the increasing interest in applying quantum theory to psychology (see Busemeyer & Wang, 2015). We believe that there is a wide margin of overlap and affinity in epistemology between quantum mechanics and the *rasa* tradition, and that this parallelism in epistemology can inform our analysis.

Our analysis of the appreciative critic consists of three steps: first we make a cross-reading of two virtual realities—non-duality (*advaita*) in Indian aesthetics and the notion of symmetry in quantum mechanics. Then we delineate the skill requirements for the creator and the ideal critic, respectively, according to the *rasa* tradition, while borrowing some insights for illumination from the principle of symmetry in quantum mechanics. Lastly, to clinch our argument, we make a cross-cultural comparison in narrative accounts of aesthetic absorption. Implications of this investigation for psychology in general, and psychology of creativity in particular, are discussed in the concluding section.

## The virtual reality of non-duality in Indian aesthetics

The *rasa* tradition is preoccupied with two virtual realities—the ideal emotions, and the ideal creator–audience relationship. First, according to Abhinavagupta (10th century), the most important commentator of the *rasa* theory, Indian aesthetics concerns the ideal, not the quotidian everyday emotions. The second virtual reality in the *rasa* tradition concerns the ideal relationship between creator and critic. This virtual reality is embodied in the suggestive quality of literature known as *dhvani* or verbal suggestion (Hogan, 1996; Oatley, 2004), which capitalizes on the like-mindedness between the creator and the audience. The (ideal) emotions that celebrate this ideal creator/critic relationship are captured by the notion of *sahṛdaya* (the appreciative critic), to which we now turn.

According to the tradition of *rasa*, as documented in Sanskrit poetics, true criticism implies idealized reconstruction in the reader's soul of what is expressed in the poet's soul. The centrality of idealization in *rasa* is well articulated by De, Gerow, and Dimock (1963):

It must be understood that empirically the critic and the poet are not the same, but by the process of *idealized contemplation* [emphasis added] his spirit can be one with that of the poet. That the process is not one of mere understanding is made clear by the observation that the *sahṛdaya* is not a mere intellectual cognizer, but an enjoyer of the *idealized bliss* [emphasis added] produced in his soul by the poetic creation. (p. 63)

This virtual reality constructed by the process of idealization may be understood as a mirror universe in which the creator's mind finds its double in the ideal critic, the *sahṛdaya*, and vice versa.

### *Two minds—an entangled pair*

Appreciation of a creative act is a process in which one re-lives the act of creation. As Bronowski (1985) has noted, aesthetic appreciation is an activity of the same kind as the original act of creation, albeit lower in intensity. Thus here “the term *pratibhā*, meaning creative energy, signifies both the artist's talent and the observer's response” (Bonshek, 2001, p. 29).

Non-duality (*advaita*) of artistic creation and aesthetic recreation (Dehejia, 1996, p. xv) is a refrain that runs throughout Indian aesthetics. The term “*sahṛdaya*” literally means “one of similar/identical heart” or “feeling” or “one akin to the poet's heart” (Pathak, 1992, p. 58), in other words, one with a kindred heart—in whom the outpouring of the poet's heart finds its goal and fulfillment. The prefix “*sa*” in *sahṛdaya* does not suggest “with” but “equal” (*sāmanā*). “*Hṛdaya*” is an epithet which stands for a vibrating and responsive heart. Sri Aurobindo (1971) uses the term “supra-rational aesthetic soul” (p. 224) as synonym for *hṛd*. In the *R̥g Veda*, there is a Mantra which states that for coordination to occur it is essential to have like thought, like heart, and like mind. Thus, “The spectator is one of attuned heart and similar disposition who can experience the mood, the sentiment (*rasa*) and who, like the creative artist himself, is capable of experiencing emotion and feeling liberated from the distinctions of time and space” (Vatsyayan, 1998, p. 171). Raja Rao (2005) sums up the non-duality between creator and critic with the claim that “the poet and the critic are like the two birds in the *Upaniṣhad*. One speaks, the other does not, or one does not and the other does” (p. 151).

### *Two minds—one unit of analysis*

The ontological unity of the creator and the critic is strengthened by a logical necessity—without a good receiver, art sees no justifiable purpose. In a phrase, the creator and the ideal critic constitute one unit of analysis as two poles of the creativity continuum—one creating and the other appreciating. According to Bonshek (2001):

Indian theories suggest that there are three aspects or stages to art: the first is the creative process of the artist; the second is the artwork; and the third is the viewer's response—when the artist's experience is recreated. These three stages occur in one unified process; the absence of any one stage means that the process is incomplete. (p. 29)

Thus Abhinavagupta considered the poet, poetic activity, and *sahṛdaya* as three aspects of one universe—the world of artistic creation (*Kāvya-saṃsāra*)—and referred to the poet and the *sahṛdaya* as twin aspects of the goddess of learning (Joshi, 2001, p. 48).

## The virtual reality of symmetry in quantum mechanics

The virtual reality of *rasa* can be illuminated by another virtual reality that inhabits the mathematical space of quantum mechanics (Gribbin, 1984). The virtual reality that quantum mechanics is preoccupied with is an ideal world governed by the principle of symmetry (Zee, 1986). A word of caveat is in order before we proceed: while utilizing the principles of quantum mechanics, we are not making any new-age claims about the quantum properties of mind and brain. Nor are we suggesting that physical instruments used on matter in physics work the same way as the use of words and symbols on mind and consciousness in the arts. Rather, our focus is on the shared epistemological assumptions between the two discourses—quantum mechanics and *rasa*. In the following sections, we examine the parallelism between the quantum principle of symmetry on the one hand, and the Indian principle of non-duality that undergirds the theory of *rasa*, on the other. This parallelism in epistemology allows us to use quantum effects as metaphors, not to prove but to illuminate the *rasa* account of the mind. Just as Einstein used the metaphor of riding on a beam of light to reach new insights in physics, we use the metaphor of quantum effects to expand the epistemological horizons in psychology, an endeavor which we deem necessary for the discipline to become a truly global science of the mind by incorporating non-Western cultural perspectives (Sundararajan & Raina, 2015).

### *Symmetry and asymmetry*

The most common case of symmetry can be demonstrated with mirror reflections. According to quantum mechanics, neutrinos spin counterclockwise; their mirror image will spin clockwise. Thus neutrinos by themselves are asymmetrical, but together, neutrinos and their mirror images restore the symmetry that appears to be lacking in each (Cowan, 2000). This sums up in a nutshell the principle of symmetry and asymmetry.

Things in the world we inhabit are asymmetrical as a result of spontaneous symmetry breakdown (Bolender, 2010). But in virtual reality, symmetry is restored when things and their mirror images are paired up together. As researchers, we can choose to investigate either the asymmetrical world of facticity or the virtual world of symmetry. Psychology chooses the former, whereas quantum mechanics the latter. From the perspective of quantum mechanics, the virtual reality of symmetry—virtual in the sense of a reality found only in the mathematical space—is more real than the asymmetrical world of facticity, because it is the former that can explain the latter, and not the other way around.

### *The purification principle*

One pertinent formulation of symmetry and asymmetry is the purification principle of quantum mechanics (Chiribella, D'Ariano, & Perinotti, 2010, 2011). Consider pion. This particle can decay into two spinning photons. "Each single photon is in a mixed state—it has an equal chance of spinning up or down. The pair of photons together, though, makes

up a pure state in which the photons must always spin in opposite directions” (Powell, 2011, p. 12). This is the gist of the purification principle.

In the context of the purification principle (Chiribella et al., 2010, 2011), asymmetry is referred to as a mixed state—mixed in the sense of uncertainty. Asymmetrical systems, such as a single photon, have uncertain properties, for instance an equal chance of spinning up or down. By contrast, symmetry is referred to as a pure state, pure in the sense of no uncertainties, as we have seen how a photon and its mirror image will always spin in opposite directions to each other—no uncertainties here. Symmetry can be restored for asymmetrical systems or mixed states. Restoration of symmetry is referred to as purification.

According to Chiribella et al. (2010, 2011), the purification principle can be formally stated as follows: “For every system  $A$  there exists a conjugate system  $\bar{A}$  such that every state of  $A$  has a purification in  $A\bar{A}$ ” (Chiribella et al., 2010, p. 3). Here  $\bar{A}$  is the mirror image of  $A$  such that the entangled pair of  $A\bar{A}$  restores symmetry for  $A$ . This formulation of the notion of symmetry in quantum mechanics has significant overlap and affinity with the theories of *rasa* at multiple levels.

First, according to Chiribella et al. (2011), the purification axiom states that “every physical state can be viewed as the marginal of some pure state of a compound system” (p. 3). This suggests that the pure state of symmetry, characterized by the entangled pair  $A\bar{A}$ —referred to here as a compound system, and elsewhere as a “pure bipartite state” (p. 11)—is the primordial reality, of which all the asymmetrical states of the physical world are marginal cases. Stated another way, the world of facticity dominated by asymmetry is only part of a larger, pure state governed by symmetry. This claim signifies a shift—from the common sense world of facticity to virtual reality—in the arbitrary cut of what is considered the really real, the ultimate reality which alone holds the larger picture of things. As we have seen, the Indian tradition of *rasa* shares with quantum mechanics this ontological and epistemological shift to the virtual reality of symmetry as the really real. In the words of Vatsyayan (1998): “The commitment to wholeness was basic: neither in thought nor in ritual there was absolute value of the single parts” (p. 166). It is this commitment to wholeness or symmetry that explains why “the spectator comes to revive the universal, the impersonalized feelings, rather than to respond to the personal, subjective experience of the artist” (p. 172).

Second, the purification principle underscores the importance of entanglement ( $A\bar{A}$ ) in quantum mechanics. This is compatible with the *rasa* framework which situates the foundation of aesthetics in the symmetrical relationship of the creator and the ideal critic. More specifically, the purification principle posits that for every system  $A$ , there exists a conjugate system  $\bar{A}$ . This formulation gives importance to  $\bar{A}$  as the entangled partner (conjugate) of  $A$  and a necessary condition for the latter’s symmetry restoration (purifying). Translated into the *rasa* context, if  $A$  stands for the creator, and  $\bar{A}$  the ideal critic, then virtual entanglement ( $A\bar{A}$ ) of the creator and the ideal critic plays an important role in the creativity of the creator and the spectator alike, to be elaborated later.

So much for the parallelism between two virtual realities of symmetry—one pertaining to quantum mechanics; the other, *rasa*. Virtual realities have real-life consequences in the *rasa* tradition, as evidenced by rigorous skill developments to be discussed in sections below. To understand the intimate connection between virtual reality and skill development in aesthetics, we need to borrow a concept from contemporary Western philosophy, namely the notion of designer environment (Clark, 2008).

## Aesthetics as designer environment

Many infrahuman animals have special skills that allow them to construct a special niche in which to flourish, for example, spiders weave webs, birds build nests, and beavers construct dams. The cognitive counterpart of this niche construction by animals is what Andy Clark (2008) refers to as cognitive niche. In contrast to natural habitats which are grounded in physical reality, cognitive niches are virtual in the sense that they are found only in mental space. One particular type of cognitive niche is called designer environments, which share in common with natural habitats the requirement of skills—including particular lifestyles and certain cognitive and emotional capacities—in order for the aspiring individual to survive in these environments. Thus Clark (2008) points out that humans construct and inhabit cognitive niches which include “designer environments in which to think, reason, and perform as well as special training regimes to install (and to make habitual) the complex skills such environments demand” (p. 59).

Cast into the framework of *rasa*, aesthetics may be considered a designer environment in which the virtual reality of quantum entanglement looms large. To inhabit this designer environment, the creator and the critic each have different skill requirements to meet. For the creator, the virtual reality of entanglement constitutes the foundation of his or her creativity, and the skill required for it is the capacity to anticipate an appreciative critic as the entangled partner. For the critic, the virtual reality of entanglement constitutes the foundation of real understanding, and the skill required for it is to become the ideal critic, one who is the entangled partner of the creator. More specifically, this entails a responsive heart—an affective capacity to be impacted—on the part of the ideal critic. In the following sections, we examine these separate sets of skills for the creator and the critic, respectively.

## The creator’s skills for virtual entanglement

Creators necessarily appreciate their own work. The principle of symmetry/non-duality predicts that the creator would expect the ideal critic to feel the same way: I appreciate my work, you, the critic, would appreciate it as much. In case an appreciative critic is not readily available in the real world, the creator can still anticipate the ideal critic. Thus the essential skill for the creator is to anticipate a mind that understands and appreciates: “A poet can probably find a master, a friend, an adviser, a disciple, a teacher—but it’s always a miracle if he finds a *bhāvaka*, that is, someone who will understand him and thereby bring his poem into full reality” (Shulman, 2008, p. 488).

Since *rasa* is reader-centered, there is more information on the critic’s skill development for virtual entanglement.

## The ideal critic’s virtual entanglement

To refresh our memory, virtual entanglement is summed up by the purification principle of quantum mechanics as follows: “For every system A there exists a conjugate system  $\bar{A}$  such that every state of A has a purification in  $A\bar{A}$ ” (Chiribella et al., 2010, p. 3). Translated into the *rasa* framework, if A stands for the creator and  $\bar{A}$  the critic,  $A\bar{A}$  entails the entangled state of the two. Parallel to quantum entanglement is the extensive

reference in the *rasa* tradition to the almost one-to-one correspondence in mirror image—recall the opposite spin of neutrinos in the mirror environment—between the creator and the ideal critic.

First, there is the mirror image of create-and-recreate correspondence. As Bronowski (1985) points out, appreciation of a creative act is a process in which one re-lives the act of creation. The general assumption is that the creative faculty that distinguishes the poet is also found in the *sahṛdaya*, with the difference being that the poet creates a world of his or her own and shapes it in words, while the *sahṛdaya* recreates from these very words the poet's world once again. This is a recurrent theme in the *rasa* literature: "The poet creates poetry, the appreciator realizes it and being a *sahṛdaya* he recreates the creative mood in his own self" (Ghosh, 2008, p. 201). Consistent with the suggestion of Gordon (1909) that "to produce one must have feeling and imagination, and, to appreciate, one must have imagination and feeling" (p. 6), Rājaśekhara claims that both poet and the *sahṛdaya* possess the same poetic imagination (*pratibhā*), though in one it is genuinely creative (*kārayitrī*), in the other imaginatively recreative (*bhāvayitrī*): "One might say that a *kāvya* (poem) is twice born: first, on the poet's level when his creative imagination conceives it and then, on the level of the connoisseur who, in this capacity, is known as *bhāvaka*, the same poem is brought to life by his power of imagination, his *pratibhā bhāvayitrī*" (as cited in Lienhard, 1984, p. 41). It is for these reasons that Schechner (2001) claims that "partakers" (p. 31) is a more accurate term for the audience than "spectators."

Virtual entanglement with the creator has both cognitive and affective consequences for the critic. Cognitively, it entails the virtual reality of optimal transmission of information comparable to quantum teleportation. Affectively, virtual entanglement is a drama enacted through the heart.

### Teleportation

Perfect understanding on the part of the ideal critic may be understood in terms of a "lossless" (Chiribella et al., 2011, p. 3) transmission of information known as quantum teleportation. Quantum teleportation involves three particles, say photons—two are entangled, the third is the information to be transmitted. A sender and a receiver each obtain one photon of an entangled pair. In order to have optimal transmission of the third photon, the sender allows the third photon to interact with his or her entangled photon. Then the receiver can retrieve the information transmitted by using his or her entangled photon.

The algorithm for information transmission in aesthetics may be formulated as follows:

$$\begin{aligned} A \times B &\rightarrow C \\ \overline{A} \times C &\rightarrow B. \end{aligned}$$

Let  $A$  be the sender's mind;  $\overline{A}$  the receiver's mind;  $B$  the information to be transmitted, say the sender's intent; and  $C$  the artwork. How does the receiver retrieve  $B$  from  $C$ ? In the common sense world, this algorithm is understood as follows:  $A$  encodes  $B$  in  $C$ ;  $\overline{A}$  decodes  $C$  to retrieve  $B$ . Decoding requires a whole slew of empathy skills, ranging from mind reading (Baron-Cohen, Tager-Flusberg, & Cohen, 2000) to between



mind-mapping (McKeown, 2013). But none of these skills would result in optimal, lossless transmission of information, thus B can only be retrieved partially. The complete retrieval of B is possible only in the lossless transmission of information known as quantum teleportation, which relies on none of the decoding skills of  $\bar{A} \times C$ . Rather, it capitalizes on the quantum entanglement of  $A\bar{A}$ . The phenomenon of quantum teleportation can be explained by the principle of symmetry.

In quantum mechanics, the concepts of symmetry and conservation are used interchangeably, since symmetry means that there is no change (conservation) under any transformation (Bolender, 2010). Thus, “the symmetries in the particles’ properties appear as conservation laws in their interactions” (Capra, 1977, p. 251). One consequence of the conservation law is quantum teleportation, which predicts the possibility of lossless transmission of information between the sender and the receiver, if the two are entangled. Thus if the critic ( $\bar{A}$ ) were to follow the principle of quantum mechanics, the best way to retrieve the information (B) that the creator (A) encoded in the artwork (C) would be to become the creator’s entangled partner ( $A\bar{A}$ ). In the *rasa* tradition, this approach is known as *tādātmya*.

### Beyond empathy

*Tādātmya* is a state of the reader or spectator who loses for a while his or her personal self-consciousness and identifies him or herself with some character in the story or scene. It can be differentiated from the Western notions of empathy. One major difference, according to Goodwin (1998, p. xi), is that while in “empathy” one shares the feelings of others, in *tādātmya* one loses oneself in the other.

In comparison to empathy skills, such as perspective taking, between mind-mapping (McKeown, 2013), and so on, virtual entanglement capitalizes on the much simpler logic of mirroring, as can be predicted from the principle of symmetry/non-duality. Bypassing all the computations of contingency in the world of facticity, such as appraisal, self, etc., the agenda of *tādātmya* as dictated by the principle of symmetry/non-duality is simple and straightforward, namely, responding like a mirror such that  $A = \bar{A}$ . An example of mirroring is when a *sahṛdaya* feels happy at the portrayal of happiness, grief at the portrayal of grief, misery at the portrayal of misery (Goodwin, 1998). Dehejia (1996) explains:

It is only the “polished heart” of the aesthete that is capable of total identification with the art object, a process called *Tanmayībhāva* which signifies that the heart of the *sahṛdaya* engages itself with the art object seriously, deliberately and completely, leaving no room for feelings such as, “it is happening to me, no it is not happening to me,” removing the duality of the subject-object consciousness and assuring a total of *advaitic* [non-duality] art experience. (p. 52)

In sum, the experience of *rasa* is the result of “sympathetic response and identification, rather than inference and recollection” (Masson & Patwardhan, 1970, p. 28).

While the algorithm is simple, the skill involved in developing the capacity for mirroring is not. In the following sections, we examine the skill development of an appreciative critic capable of becoming the entangled partner of the creator.

## The critic's skill development for virtual entanglement

Not unlike art critics in the West, a *sahīdaya* is a person of critical faculty, capable of a healthy artist–viewer relationship based on deep reflection, inquiry, examination, or investigation. As Misra (2008) points out: “whoever is *sahīdaya* has an intense concentrated memory, meditative *dhyān-yoga*, intellect, intense luminosity of creative and receptive faculty and the universe dissolves into this light to open anew” (p. 92). Above and beyond all that is a unique capacity of the heart. According to Vatsyayan (1998), *sahīdaya* is a good-hearted, compassionate reader, one who possesses a colossal heart (*virāta-hīdaya*), thereby establishing a relationship between his/her heart and that of the poet which enables him/her to catch the vision of the poet, to develop a corresponding vision, and to immerse fully into the emotion and imagination of the poet. While these empathy skills (Wells-Jopling & Oatley, 2012) are also found in Western aesthetics, they go further in *rasa*, thanks to the guiding principle of symmetry/non-duality.

To recapitulate, in the tradition of *rasa* the critic's skill development is based on the logic of symmetry which predicts the virtual entanglement of A and  $\bar{A}$ , where if A stands for the creator's impact, then  $\bar{A}$  is necessarily the critic's responsiveness to impact. This explains why skill development of the critic revolves around that of responsiveness. More precisely, it entails a “responsive plus.” Martin (2006) explains: “For me to understand a work of art means at least that it finds me. That it finds in me means a *responsive plus* [emphasis added] in me; that is, I experience an expansion of self” (p. 187). Note here the logic of symmetry/entanglement is reiterated twice. First, there is the symmetry of mutual discovery between the creator and the critic—to understand a work of art is to be found by it. Second, the entanglement of creator–critic constitutes an expansion of the critic's self.

To the extent that the organ for responsiveness is supposedly the heart, the skill development for the critic centers on the heart metaphor.

### The responsive heart

Philosophy is difficult unless we discipline our minds for it; the full appreciation of poetry is difficult for those who have not trained their sensibility by years of attentive reading. But *devotional reading* [emphasis added] is the most difficult of all, because it requires an application, not only of the mind, not only of the sensibility, but of the whole being. (T. S. Eliot, cited in Kearns, 1987, p. 3)

To have a responsive heart is to be open to the transformative impact of the creator and the artwork. This formulation is close to appreciation as envisioned by Dewey (1934). Drawing on Dewey's theory of aesthetics, Jackson (1998) writes:

The true appreciator of an art object, for Dewey, is not the casual listener or viewer. Rather, he is someone who has spent time with a work, has found it engaging, stimulating, puzzling, perhaps even troubling, and, as a result of his sustained exploration of it, has undergone a significant change of some kind. His encounter with the object or performance forces him to modify his former habits, his old ways of looking at things. The new and the old become integrated. They form a new pattern, a new way of perceiving. (p. 51)

Dewey's (1934) formulation highlights the transformative power of appreciation, a transformation that involves the whole person far beyond behaviors. That is why in the *rasa* tradition skill acquisition for a responsive heart entails a spiritual and mystical discipline akin to yoga (Vatsyayan, 1996). For instance, Abhinavagupta considered the apex of aesthetic appreciation as indistinguishable from the highest spiritual awareness. Shah (2001) explains:

On the whole the Indian tradition in aesthetics has been more concerned with the inner, subjective aspects of appreciation than has been the case in the West. In India both the creative function of the artist and the practice of appreciation are ordinarily regarded as modes of personal devotion demanding systematic mental discipline akin to the various forms of psychic self-control taught by yoga in quest of spiritual enlightenment. (p. 51)

## Yoga of the heart

Of all the skills required for the making of a *sahṛdaya*, disciplines of the heart lie at the core.

### Bonding

According to Misra (1994, 2008), the seed of the concept of *sahṛdaya* lies in a participatory communion, as implied by the word “*sakhya*.” The word “*sakhya*” is derived from the root which means to be attached, to be in unison with, so that “*sakhya*” means mutual attachment or bonding. As can be predicted from the principle of virtual entanglement, the skills of aesthetic appreciation are usually cast in the imagery of the polished mirror. For instance, according to Abhinavagupta, “*Sahṛdaya* is one whose mirror of heart is cleansed of impurities and who has developed the ability to become one with the poet” (Prasad, 2007, p. 143).

Another image of virtual entanglement is fire. Fire is implied when the critic's heart “melts”:

the mirror of their heart has been polished, through constant recitation and study of poetry and who sympathetically respond in their own hearts; he is one whose heart *melts* [emphasis added] and whose heart is not hardened by the readings of dry texts on metaphysics. (Abhinavagupta, as cited in Masson & Patwardhan, 1970, p. 10)

### Longing

The ideal critic is one whose soul is on fire, so to speak, as evidenced by the all-consuming desire to bring “total displacement” or “annihilation” of the ego, and by the intense yearning for the virtual reality of symmetry or non-duality, referred to as “ideal beauty” by Misra (1994):

to be a *sahṛdaya* is to become surcharged with an overpowering longing for ideal beauty, suggesting a total displacement of the person in time and space and virtually a transference to an aesthetic time and space. It is a pressing call from afar and one is carried away to a distant

and yet so close a shore of unfathomable ocean of infinite existence. It is virtually nothing else than a rebirth, or a passage through the gate of death, as it automatically brings annihilation of the limited self. (p. 53)

## Appreciation and aesthetic delight

Aesthetic delight is what one reaps, if one follows all the steps of aesthetic appreciation. To get there, a *sahṛdaya* goes through three distinct but interrelated stages, according to Pathak (1992):

The mind of the responsive reader first becomes attuned to the emotional situation delineated in the literary work (*hṛdaya samvada*); it is then completely absorbed in its portrayal (*tanmayībhāvana*); and this absorption finally results in aesthetic delectation (*rasanubhava*). (pp. 60–61)

Suppose one goes through all these steps—what kinds of pleasure are generated by aesthetic appreciation and why? First of all, aesthetic pleasure is considered neither mundane, nor spiritual, but super-worldly, that is, though it is a worldly pleasure, it surpasses all other such pleasures (Choudhary, 2002, p. 82). This forms a sharp contrast to the quotidian emotion of appreciation studied by psychology (Algoe & Haidt, 2009). Krishnamoorthy (cited in Osborne, 1970) points out that although not entirely unknown to the West,

nevertheless language which is accepted as a matter of course in Indian description of aesthetic enjoyment will seem exaggerated to most Western ears. ... the intensity of experience indicated by Indian aesthetic writing would not be regarded as normal in the West. ... It is in the characteristic Indian accounts of enjoyment that their language sounds strange. (p. 208)

Emotional experiences that fall under the rubrics of aesthetic delight have the following attributes.

### Self-transcendence

Schopenhauer (in Delacroix, 1957), who was immensely influenced by Indian philosophical thought, believed that aesthetic contemplation begins with the effacement of the self. Hirianna (1954) couldn't agree more: "It is this transcending of self-consciousness—this migrating from the narrow self ... that constitutes the secret of aesthetic delight" (p. 20). Haberman (2001) says the same in his exegesis on the *rasa* theory of Abhinavagupta:

Reduced to its bare essential the theory is as follows: watching a play or reading a poem for the sensitive reader (*sahṛdaya*) entails a loss of the sense of the present time and space. All worldly considerations for the time being cease. ... the response becomes total, all-engrossing, and we identify with the situation depicted. The ego is transcended, and for the duration of the aesthetic experience, the normal waking "I" is suspended. (p. 20)

### *Novelty and wonder*

Aesthetic delight is referred to by Abhinavagupta as “*camatkāra*”—a Sanskrit term he also used for religious experience—which means “wonder” or “astonishment” and implies “the cessation of a world—the ordinary, historical world, the *samsarā*—and its sudden replacement by a new dimension of reality” (as cited in Haberman, 2001, p. 21). This new dimension of reality is the direct consequence of self-transcendence: “When the self is distanced from the world, even from the body and its immediate concerns, non-adaptive goal satisfaction is privileged in favor of interests that are larger than one individual and one particular socio-historical time zone” (Pandit, 2008, p. 82). Thus Oatley (2004) claims that literature in the *rasa* tradition allows us to see deeply into the nature of things in a way that transcends the egotism of everyday emotions.

### *Ecstasy and tranquility*

Abhinavagupta reserves his highest praise of the dramatic experience for that moment when the spectators so deeply enter into the world of the play that they transcend their own limited selves and for them time and space disappear for the duration of the experience, such that they are totally immersed in an experience marked by bliss (*ānanda*). This bliss known as the aesthetic delight is a paradoxical combination of ecstasy and tranquility.

According to Masson and Patwardhan (1969), ecstasy, “the undifferentiated bliss” (p. vii), is the final essence of *rasa*. Misra (1994) agrees: “all dualities are merged into one suspended moment of ecstasy” (pp. 51–52). Yet, this undifferentiated bliss is also known for its calming effect. According to Haberman (2001):

now that the hard knot of “selfness” has been untied, we find ourselves in an unprecedented state of mental and emotional calm. The purity of emotion and the intensity of it take us to a higher level of pleasure than we could know before—we experience sheer undifferentiated bliss. (p. 20)

Consistent with our virtual entanglement hypothesis, the paradoxical combination of ecstasy and calm is also characteristic of unions, sexual or otherwise. In fact, all attributes of aesthetic delight—self-transcendence, wonder, ecstasy, and calm—can be found in experiences of sexual union (Averill, 2002; Hatfield & Rapson, 2005). This does not necessarily mean that all these aesthetic pleasures are sublimations of sex, as Freudians might say. Rather, we would say that sexual union is only one of the metaphors of symmetry/non-duality, and that of all the schools of thought that sing paeans to the bliss of symmetry (e.g., for the Chinese notion of harmony, see Sundararajan, 2015, Chapter 2), the theory of *rasa* is one of the most articulate.

## **A cross-cultural comparison of aesthetic experiences**

In this penultimate section, we sum up the foregoing analyses with an image schema-based narrative; and we present our narrative of aesthetic appreciation in the context of a cross-cultural comparison of two accounts, Western and Indian, of aesthetic absorption.

## *Aesthetic absorption*

One of the hallmarks of aesthetic appreciation is aesthetic absorption, which is defined by Balint and Tan (2015) as “high intensity experiential responses to narrative as a guided simulation in which the viewer or reader participates” (p. 65). Fictional narrative as enacted by dance or drama has been the primary medium for aesthetic appreciation in the *rasa* tradition. According to Mar and Oatley (2008), narratives serve the function of mental simulation. What is being simulated by fiction? According to Balint and Tan (2015), narratives are mental models that “highlight key experiential features of routine interactions with things and events in the world” (p. 78). This is not the case with the *rasa* tradition, where the focus of guided simulation is not the experience of facticity so much as an idealized world.

As a tool of analysis, image schema (Lakoff, 1987) is used by Balint and Tan (2015) in their study of aesthetic absorption. Image schema refers to rough and sketchy images that are derived from embodied knowledge of our experiences with the world (Johnson, 1987). Based on their interviews of native English speakers, Balint and Tan (2015) made use of selective image schemas—Centre–Periphery, Container, Source–Path–Goal, and Force—to sum up the aesthetic experience of being absorbed in a fictional narrative. The experience may be constructed:

as the viewer’s or reader’s self having entered the story-world and being enclosed in it due to an active Force ... an awareness of a future or possible exit, accommodating the tendency experienced by at least some recipients to flee from the grip of the narrative or the author. Moreover, viewer or reader resistance to Enclosure could also be represented ... as Forces emanating from the self that counter enclosure through the Container’s receptacles. (p. 77)

This scenario suggests conflicting tendencies: “the self pushes towards the exit, while another force, possibly the author, pulls it back” (p. 78). It also suggests conflicting resistance in the self. The viewer or reader may have the experience of “having been submitted to a superior power; in essence, being absorbed while also sensing their own resistance ... a dynamic balance between attraction and repulsion forces” (p. 75).

This Western account of aesthetic absorption suggests highly asymmetrical transactions between the reader/viewer and the writer, in sharp contrast to the symmetrical transactions of the same in the *rasa* tradition. In the Western sample as studied by Balint and Tan (2015), the writer is approached as one of the imaginary others which, according to Oatley (2007), play an important role in the narration of the self. In contrast to the symmetrical relationship between the ideal critic and the author in the *rasa* tradition, the transaction between self and imaginary other is asymmetrical, as is evident in the analysis of Balint and Tan (2015). The contrast between symmetry and asymmetry can be illustrated by that between the two conceptualizations of the physical world—substance versus object. In the following analysis, we show that the difference between the two accounts of the aesthetic experience—*rasa* and Western—falls along the divide between substance and object.

## *Substance versus object*

According to Rips and Hespos (2015), substances are “more rudimentary than objects. Substances ... are relatively unconstrained in their ability to combine and divide”

(p. 803). Objects, by contrast, are entities that are “put together and maintained in a non-arbitrary way—‘shaped’ by either physical or social forces” (p. 807). Cast into our theoretical framework, substances have a relatively high degree of symmetry, for instance wood is wood anywhere. By contrast, objects are basically asymmetrical, for instance chairs are not all alike—some are made of wood, some not, and so on. For our purposes, it is important to note that the self is more akin to object than substance: “people represent a physical object, but not its matter” (p. 807). This explains why transaction between the self and author as the imaginary other is cast in the mode of objects, which has a higher degree of asymmetry than that of substance.

In the account of Balint and Tan (2015), the basic mode of transaction between self and author as the imaginary other is that between patient and agent. This point can be illustrated with the Force schema. Force has an origin and an object of its impact—the former pertains to the imaginary other as agent, and the latter, the self of the reader. The account of aesthetic absorption in terms of Force is fraught with forces and counterforces, such that the reader/viewer’s trajectory is “metaphorically mapping the author’s physical power and the viewer being its physical object onto the latter’s feeling of helplessness (‘Where is he taking me?’)” (p. 80).

In the *rasa* literature, by contrast, substances pure and simple—such as water and fire—loom large. The relatively high degree of symmetry in the substance to substance transaction is beyond the scope of objects. Consider this analogy: ideal emotions, we are told, “transform other [temporary, stimulus-dependent] emotions into themselves, even as *the ocean transforms the waves into itself* [emphasis added]” (Sinha, 1961, p. 175). To illustrate the perfect fusion of substance, as that between ocean and wave, we devote the following paragraphs to an analysis of the image schema of aesthetic delight.

To the extent that mental construals are essentially spatial (Mandler, 2012) in nature, we may begin our analysis with a metaphor of space. The complex account of aesthetic appreciation in *rasa* requires a multidimensional space capable of accommodating two Containers, not only one as is the case with the Western account of aesthetic absorption in Balint and Tan (2015). In *rasa*, the transition from the first to the second Container can be represented by the Path schema denoting passage from one phase to another. The first Container pertains to the artwork; the second, aesthetic delight. From Container to Container there is a continuous process, no exit is ever sought. The ideal critic is one who willingly takes this one-way trip, no resistance or counterforce is experienced along the way. This journey or Path is a metaphorical representation of the process of symmetrical transactions between the reader/viewer and the author.

In the first phase, the artwork or the author’s mind is represented as the Container. In order to enter the first Container, the reader/viewer has to undergo a subtracting process, as evidenced by imageries of displacement, through which mundane time and space are suspended. Along with the suspension of mundane time and space goes the ego, just as the chair-ness is subtracted from the wooden chair, leaving behind nothing but substance—wood of the chair or mind/heart/soul of the self. Self-transcendence makes it possible for the transaction between the ideal critic and the artwork/creator to be completely symmetrical—substance to substance as wood to fire or mind to mind. The mode of transaction in this phase is anticipatory participation. Just as the creator anticipates an appreciative critic, the critic anticipates the meeting with another mind through the

artwork. This mode of anticipation is articulated as longing. While it is possible to long for pizza or chocolate, the ideal critic's longing rests squarely upon symmetrical transactions—substance to substance or mind to mind. More specifically, it is one mind longing to be awakened by another, in a manner akin to wood being kindled by fire. This theme is well articulated by Vatsyayan (1998): “Dormant states of consciousness exist in the spectator, which, once he sees them manifested through the medium of art, the identical states of being are evoked and awakened within him” (p. 171).

In the second Container, the ideal critic attains the undifferentiated bliss of complete fusion—the merging of substance and substance, i.e., mind and mind, in a manner akin to wood being consumed by fire and becoming fire. This is the primordial symmetry known as aesthetic delight: “Just as *fire covers the dry wood* [emphasis added], the aesthetic pleasure arising in one's heart engulfs experience's whole being. This aesthetic pleasure is generated if the work of art is appreciated by heart” (Ghosh, 2008, p. 201).

### **Implications for psychology**

The formulation of aesthetic appreciation in the *rasa* tradition has shed some light on a so-far neglected account of the human mind, an account that has much to contribute to psychology.

#### *From aesthetics to empathy*

Crozier and Greenhalgh (1992) draw an analogy between aesthetic experiences and social relationships. This is clearest in the aesthetic appreciation of art, where the relationship is literally interpersonal—between the artist and the spectator, as mediated by the art object. They further point out that this empathic responding is not restricted to aesthetics. Our investigation extends this important thread. The new insight that *rasa* brings to the empathy question centers around the quality of the mind-to-mind transaction as measured by the principle of parity/symmetry (for a Chinese version of the same principle, see Sundararajan, 2015). As we have seen from the foregoing analysis of aesthetic absorption, parity or the lack thereof in the reader's transaction with virtual minds (the imaginary other or the author) is a difference that has a real impact on aesthetic experiences. This hypothesis can be tested empirically in future research. Are there individual or cultural differences in the capacity for a symmetrical transaction with virtual minds, and whether such differences have consequences for health and/or creativity? One such example is an empirical study of relational mindfulness (Sundararajan & Fatemi, 2016a, 2016b).

#### *Toward a relational account of the human mind*

As many observers (e.g., Danziger, 2006) have noted, mainstream psychology is infested with individualism, one of the basic assumptions of which is that first there is the individual, then that individual may form a relationship with another individual. Replace the term individual with the mind and the formulation remains the same, namely that first there is the individual mind, then this mind may connect with another mind. By contrast,



the relational framework (Gergen, 2009) posits that in the beginning there is the nexus of minds or a society of minds, out of which an individual's mind emerges. This formulation is consistent with the philosophy of Dewey, who claims that the mind has its genesis in the community of minds (Johnson, 2007). It is along the same line that Thompson (2001) argues that the mind is by nature "intersubjectively open, since it is partially constituted through its interaction with other minds" (p. 12). From this perspective, we may say that the thrust of the empathic mind-to-mind transactions, as envisioned by *rasa* and other non-Western traditions of aesthetics (for Chinese accounts, see Sundararajan, 2015; Sundararajan & Fatemi, 2016a, 2016b), is to go back to this primordial intersubjective symmetry before the asymmetry of individualism sets in.

### *A shift in the epistemological cut*

Our cross-readings of quantum mechanics and the *rasa* theory serve to reinforce one central question posed by both to psychology: namely, what is the really real? Both quantum mechanics and *rasa* claim that the idealized world of symmetry is primary, whereas the common sense world of facticity is secondary and derived reality, since the former can explain the latter and not the other way around. This claim brings psychology to the crossroads of competing epistemologies. Conducting scientific investigations at the epistemological crossroads, psychology has consistently chosen to stay within the parameters of the observable world of facticity. But the road not taken can be as productive as the one that is well-trodden. The possibility of arbitrarily shifting the epistemological cut, as evidenced by that between the observer and the observed systems in quantum mechanics, was considered by von Neumann (1932) to be a "fundamental requirement of the scientific viewpoint" (p. 418). This "scientific viewpoint" of shifting the epistemological cut is the challenge to psychology posed by the *rasa* account of aesthetic appreciation.

Implications of this challenge are far reaching for psychology in general, and for the psychology of creativity in particular. For instance, a shift in the epistemological cut from the world of facticity to that of virtual reality would result in a shift of emphasis from product to process (Beghetto & Kaufman, 2007) in the measurement of creativity.

Product- and outcome-oriented measures of creativity are constrained by the objective world of facticity, whereas the subjective process of creativity has a wider scope to accommodate the virtual realities of visions and intentions. Albert (1993, p. 7) suggests that creative behavior does not depend on failure or success so much as on intention and effort. Runco (2011) likewise privileges personal creativity over the completion of creative products, as he points out that the latter procedures "focus on reactions rather than on creations" (p. 221). This is consistent with the perspective of *rasa*, in which it is not by resorting to checklists, rating scales, quantity of things produced, attributions by judges, or assumptions of product theories of creativity that the creator and the critic can become one in aspiration and consciousness.

In a larger context, one of the most important consequences of this shift in epistemology is a new way of looking at the mind—and ultimately at what it means to be human. We have demonstrated in the foregoing analyses how this possibility is opened up by the visions of symmetry and non-duality in quantum mechanics and the *rasa* framework,

respectively. Let us conclude this investigation with the vision of non-duality (*advaita*) as captured by Dehejia (1996) in the following terms:

the oneness of art and aesthetic experience, and bond of the *kavi* [poet], *kāvya* [poetry] and *rasika* [aesthete, the one who savors], the unbroken unity of *kāvya* [poetry], *artha* [meaning] and *ānanda* [bliss], the biune unity of the cognizing subject and the object of cognition in an artistic epistemic experience, the *advaita* [non-duality] that retains the material and the vital of a *puruṣa* [man] but pushes to the spiritual of the *Puruṣa* [primordial cosmic Man], an *advaita* that sustains itself not by negation but by assertion, an *advaita* of joyous celebration of the creative spirit of man, an *advaita* of artistic creation and aesthetic recreation. (p. xv)

This state of consciousness is conducive to admiration, love, and the dignity of being, about which Wordsworth writes so eloquently:

We live by admiration, hope and love,  
 And ever as these are well and wisely fixed  
 In dignity of being we ascend. (as cited in Tagore, 1996, p. 131)

### *Turning to indigenous psychologies*

In our attempt to understand the *rasa* account of the mind, we have used the discourse of quantum mechanics, along with that of virtual reality, as metaphors for purposes of illumination. Unfortunately, these metaphors may also distract with their trappings from popular culture, ranging from computer simulations to hype about the quantum brain. It is our hope that the possible irritation caused by the crudeness of the metaphors we use may help to remind readers of the inadequacies of applying modern Western concepts to another culture. To better access non-Western accounts of the human mind, we need to, in the final analysis, turn to *rasa* and other indigenous psychologies of the world.

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## Author biographies

Louise Sundararajan received her PhD in History of Religions from Harvard University, and her EdD in Counseling Psychology from Boston University. She is founder and chair of the Task Force on Indigenous Psychology, which is joined by over 200 researchers from around the globe. She served as past president of The International Society for the Study of Human Ideas on Ultimate Reality and Meaning, and also past president of the Society for Humanistic Psychology (Division 32 of the American Psychological Association). She is recipient of the Abraham Maslow Award for 2014, from Division 32 of APA. She is a Fellow of the American Psychological Association, and also a member of the Board of Directors for the International Society for Research on Emotions. She is Associate Editor for *Journal of Theoretical and Philosophical Psychology*, and

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