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BODY SENSE AND THE SOMATIC MARKERS : EMOTIONS IN CONSCIOUSNESS STUDIES

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Abstract: Within the area of cognitive sciences and consciousness studies the primary aspect of emotion that is emphasised is the feel factor or the qualia of the experience. What makes an experience unique to the person defines its qualia and therefore is mostly inaccessible to others. The closest relative to qualia is emotion because of its person-centric nature. Emotion, for neuroscience, is today one of the junctions where brain and personal experience meet. The binary notions of reason/emotion are increasingly disappearing from serious discussions on cognition and consciousness, at least from the neurobiological point of view. And the central factor for this transformation is the binding problem in consciousness studies which brings the self to the forefront.

Keywords*:* qualia, feelings, emotion, reason, consciousness study, cognitive science, sensation, basic emotions, expression of emotions

When the ears are filled with the sound of sweet song, or the nostrils with the scent of sandalwood etc., the state of indifference disappears and the heart is invaded by a state of vibration; such a state is precisely the so called power of beatitude, thanks to which the human is 'gifted with heart'.

> *tatha hi madhure gite sparse va candanadike*
> *madhyathi avagameya sauhrdaye spandanamanata*
> *anandasaktihs aivoktayatah sahrdayoh janah*
> (Abhinavagupta, *Tantraloka*, 3: 200)

What is it that makes us human? It's not something you can programme. You can't put it into a chip. It's the strength of the human heart. The difference between us and the machines. 'Terminator Salvation' (as Marcus gives his heart to John Connor)

Introduction

The history of interest in studying emotions is as old as ancient Egyptian culture and Ayurvedic medicine. Several questions persisted since then which continue to inspire the study of emotions and bring in the role of the brain, the body, and the self, interspersed by the influence of environment, society, art, and one's character. When from one point of view emotions guide neural mechanisms for physiological and chemical balance, from another viewpoint emotion enhances self-expression and the presentation of the person. It is commonly agreed that all our experiences come with the subjective quality which provokes, invokes and enriches its contents. What we identify as 'my own self', 'me', and 'mine', is felt by us and expressed for others through our emotions. It is the feel factor of emotions that is recognised and gauged by others through our facial expressions, tone of voice, innuendos in speaking, and the general disposition of the body. The body-sense is invariably tied up with the expression and experience of emotions.

Emotions are variously interpreted as: physiological changes caused so as to produce appropriate behavioural responses; aesthetic agents that invoke relish in one who enjoys a piece of art; tools of communication that tell another person about the warmth or coldness of one's personality; markers of attitude for inter-subjective transference; valence of one's perception about life and life goals. Emotions carve our personal identities, without which others will find it hard to understand us and communicate with us. They are the narrators of physical, mental and social health for us and for others. Through our emotions we know how much we are in 'control' and how much we are involved.

How and why does brain activity generate emotions? Or does it? Are emotions evolutionary vestiges or enhancers of experience? Are feelings and emotions different, and do they have differing roles to play? Are there feelings that are not necessarily dependent on sensations? Can we have perceptions without feelings? Are feelings emergent properties of experience or are they discrete cognitive events? Can emotions be understood within the framework of neuroscience? Can feelings be considered as discrete cognitive events and understood within the framework of neuroscience? Another pertinent issue that is discussed currently is the ability of emotions to be part of a decision-making process by contributing to the cognitive deciders. How do emotions influence our cognitive capacities and rational processes?

How do emotions reason and respond? What are the rational and cognitive components in emotions? Or, in other words, what is 'known' through emotions? Can we think exclusively as a rational entity, or is it that our emotions influence the arguments that we form using rational activities in advance? What is the relation between emotion and memory? What is the role of emotion in autistic subjects? How is social behaviour guided by our emotional responses? What is to it to sense sensation, and sense feeling? Can we discount the belongingness and owning features of feelings, and how adequate are the concepts of qualia and representationalism to represent these subjective nuances? What is the role of bodily subjectivity in framing a continuum of self-experience?

Yet another contention about feelings is that they are not necessarily dependent on sensations, and that there is the possibility of perceptions without feelings. Or, in other words, what is it to sense sensation, and sense feeling? Is there a difference between these two kinds of senses that we possess? And if they are different, how are physical sensations and mental feelings presented in a united manner to our subjective experiences? In spite of these enchanting questions that lure human imagination, emotions give us a sense of belonging and ownership through our feelings. They are the spokespersons of our inner life and aid in framing a continuum of self-experience and social interactions. We feel the other through our emotions. The other gets to know us through the expressions of our emotions.

Experiences Come to Us as a Unified Whole

Before we discuss emotion as a separate entity, we also need to remember experiences which make emotions what they are. At any given time, a subject has a multiplicity of experiences (Bayne & Chalmers). These experiences are distinct from each other. At the same time, they are unified by being aspects of a single encompassing state of consciousness. This total state is not a conjunction of different conscious states but is another conscious state in its own right. There is a fundamental and intrinsic unity to all experiences. The unity is experienced primarily through and by the subject of experience. Hence, we also know that we do not have just one single unified sensory experience but multi-sensorial experiences. We receive five sensory experiences that are directed to one object or several objects at the same time. I could be eating an apple, watching the blue waves, feeling the breeze on my skin, smelling the fresh air, hearing the distant call of the boatman – all these are experienced at the same time with clear distinctive feelings for each. At the same time, I could be also reveling in what could be described as a nostalgic feeling about the rivers in Kerala. Our experience presents all of

its different content in one unitary perception. They all cohere in a unitary subject, which is my-self.

The question of unity of experience is crucial in understanding the feel factor in an experience. Does each sensory experience come with a feel factor unique to it? Or is there only a single experience with a rich feel factor? How are the distinct feel factors of discrete sensory experiences retained in a single, unified experience? Feinberg writes:

When the neurologist observes the brain experiencing 'pain' from the outside, she sees specific patterns of neural activity that can be accurately defined, but cannot see in the brain something neurological that is equivalent to the experience of 'pain.' When viewed from the outside therefore, the quale 'pain' really does not exist materially. From the outside point of view, my patient's qualia are illusory. Qualia are personal and the relationship between a given brain and a given mind differs whether one is the person having that brain and that experience (Feinberg 147).

The Class of Qualia

In order to commence a discussion on emotion, it is important to understand the class of concepts to which it might belong. All components that produce or contribute to the subjective nature of experience, including our feelings, belong to the class of qualia. Emotions and such other entities are perhaps even responsible for generating the qualia of experience – the qualitative essence of experience.

A strong assumption among philosophers of mind is that all mental facts and states can be explained in terms of natural science. Mind can be naturalised and explained reductively in terms of neural functions. Emotions are also of natural kinds that can be known objectively and ARE marked biologically. Is this true? Have we even succeeded in defining emotion without vagueness?

> . . . I suggest that progress in the scientific understanding of emotion is not, as one might assume, hampered by disagreements. Instead, I argue that progress is limited by the wide acceptance of assumptions that are not warranted by the available empirical evidence. These assumptions can be summarised by one core idea: Certain emotions (at least those referred to in Western cultures by the words 'anger', 'sadness', 'fear', 'disgust', and 'happiness') are given to us by nature.

> That is, they are natural kinds, or phenomena that exist independent of our perception of them. (Barrett 29).

Another view that argues against the naturalist supposition of emotion holds that the subjective nature of experience cannot be naturalised since the processes responsible are rooted in representational structures of mind. Amongst philosophers of mind the notion of 'mental representation' is a major contender to describe qualia in terms of cognition. Primarily, mental representation is a concept that has arisen from the theories of cognitive science.

Computational psychology and cognitive neurosciences postulate different structures and processes towards describing representation. These structures are rarely parts of common experience, but often linguistic concepts for representing the phenomenal and the feel factor of experience. Computational theory of mind suggests that brain is like a computer and mental processes are computations. Metzinger cautions against such approaches:

> . . . Because many such philosophers are superb at analysing the deeper structure of language, they often fall into the trap of analyzing the conscious mind as if it were itself a linguistic entity, based not on dynamical self-organization in the human brain, but on a disembodied system of rule-based information processing (Metzinger 4).

From classic times the mind has been viewed as consisting of cognition, affect (emotion) and conation (motivation). A valid criticism against the approaches in cognitive sciences is that though the claim is that it is the 'mind' which is studied, only one aspect of the mind is projected to represent the whole mind, namely cognition. Emotion and motivation are as important, or at times more important than the cognitive rules we apply in life. And therefore our acts are not just 'lifting objects' or 'standing up' and 'using linguistic rules'. Ledoux (2002) makes the following perceptive argument:

> The fact that emotion and motivation are not studied by cognitive science makes sense if cognitive science is regarded as a science of cognition, but is troubling if the field is supposed to be the science of mind. A mind without feelings and strivings (the kind of mind traditionally studied in cognitive science) might be able to solve certain problems given by a cognitive psychologist, but it doesn't stack up well as the mental foundation of a self. The kind of mind modeled by cognitive science can, for example, play chess very

well, and can even be programmed to cheat. But it is not plagued with guilt when it cheats, or distracted by love, anger, or fear. Neither is it self-motivated by a competitive streak, or by envy or compassion. If we are to understand how the mind, through the brain, makes us who we are, we need to consider the whole mind, not just the parts that subserve thinking (LeDoux, 2002: 14).

The growing interest in 'affective neuroscience', as demonstrated primarily by the works of Panksepp, argues that if the focus on understanding consciousness is shifted to the realm of emotions, better results might emerge.

> . . . many of the scientific dilemmas of the twentieth century, including the Computational Theory of Mind advocated by many cognitive scientists, were created by situating all of consciousness (i.e. the capacity of have 'awareness' of experiences) just at the very top of the brain, especially the sensory-perceptual and executive regions of the brain . . . These foundational basic emotional and motivational urges of all mammals, which monitor vital life qualities, are the foundation of mind (Panksepp, Asma, Curran, Gabriel, & Greif 15).

Is Qualia Impersonal?

Can we have a feeling without a sense-experience? How do we understand the mental feelings we have that are not necessarily dependent on sensations?

Much of the discussion on qualia is dependent on the body and the examples are centred on bodily subjectivity. We know that we can have a 'feel' without physical objects invoked by our thoughts, fears, elations, and such mental phenomena. On certain occasions, the 'feel' extends from the mind to the spirit through the values we cherish, such as altruism and compassion.

Every experience, along with the distinct sensory feel, comes with another awareness which is of a 'belongingness' or 'owning', as Kant says. But the ownership itself is an expression of non-intentional consciousness. The Eastern tradition of Vedanta describes this as one of the characteristics of the ontological self which serves as the adhering entity, enabling us to be aware of sensory experience(s).

Representationalists endorse an impersonal characteristic of qualia. This is not true in our real, lived life. Our sensations do not come to us in a blank, receptor mode. The unique features of our personalities are the filters through which they arrive, change, and

are sustained. The implications of the feel factor differ for each person. To feel is not an isolated, clear, cognitive event. It is much more subjective in the sense that it involves mood changes, invokes memories, and even brings in abidance to values in life. The phenomenal aspects of an experience can transform a person for good or ill. Hence, the result or the extent of the feeling can continue for several days, indefinitely, or stay just for that moment.

Following Nagel and others before him, we ask with curiosity 'what it is like' to have a specific experience that belongs to another being? The mystery of 'what it is like' is sustained since we tend to address it in a cognitive context. With such an address the wholistic character of experience is reduced or ignored. The query 'what it is like to be someone' is about subjectivity and being as a whole, in its uniqueness.

The query on subjectivity as a whole is distinct from two other queries:

(a) What it is like to eat sushi?

(b) What it is like to experience the flavour of sushi enjoyed by A?

(a) is about the experience of a distinct sensation and (b) is about the distinct feelings that A enjoys from the flavour: (a) is object centred. (b) is person-centred?

Is (a) equivalent to (b)?

Unless we make this distinction, the larger question of 'what it is like to be oneself' cannot be approached. Nagel remarks: 'the analogical form of the English expression 'what it is like' is misleading. It does not mean "what (in our experience) it resembles", but rather 'how it is for the subject himself'? (Nagel 442)

Feeling and its Uniqueness

Each discrete sensation comes with its designated feeling. The feel of touch is different from the feeling of watching sunset (and touch itself has myriad nuances depending on a large number of factors). The feel of anger is different from both these. What this means is that each sensation and mental state is discretely experienced. However, we cannot say that the feeling is a property of the object of experience. We can only presume that the feeling is a property of subjective experiences invoked by the object.

Yet another issue is about the universality of feeling. When we endure a toothache, or drink coffee, or watch the redness of an evening sky, these experiences invoke a certain element of discomfort (in the case of toothache), or joy (in the case of watching sunset), or another unique feeling. The feel factor is dependent on the object and the personality of its beholder. The nature of the feeling invoked by the objects has universal accompanying features such as ownership and a reassuring sense of being related to the world experienced. But the consequences of feeling need not be the same for all. For instance, I may become irritated by my toothache and go through a bad mood the whole day. Or I may quietly watch the discomfort without being overwhelmed by it.

Feeling cannot be considered in isolation as a one-time experience. Feeling is fully comprehended only if the one-time experience is extended to include the consequences such a feeling produces in terms of attitudinal responses. The feel factor is guided by the reflective consciousness the self possesses. In any case, what is arguably confirmed is that there is a subjective feeling to human experience. Feeling has unique nuances exclusive to the person, as well as universal features that influence the experience, the experiencer, and the cohabitants in an interpersonal world.

A few philosophers have argued that consciousness is not a composite and unitary entity but discrete and formed of different states. The discussion on feeling demonstrates to us that in fact consciousness is marked by its unity, and its intentional, phenomenal and introspective capabilities come together. What offers serious challenges to the unidirectional and closed theories about feeling and its relation to sensation is the question, 'Can sensations be altered'? Can perceptions happen without a feeling? Is there a possibility for the brain to transfer and switch over sensory functions? Is feeling a natural state or is it induced? If so, what is the nature of the subjective self that gives a coherent feeling about sensations? By establishing the irreducible feel factor in all experiences, can we argue for an irreducible self?

Arguments for the non-reducibility of feeling are often demonstrated with thought experiments. The 'Mary's knowledge' argument [1] (Jackson), and 'what it is like to be a bat'[2] argument (Nagel) make strong cases for the existence of qualia.

Mixed Up Senses

Are the ' how' and ' when' (correlates) of feelings neural l y determined? Is the brain hardwired for each sensation separately and without change? Does the brain always

differentiate among the senses? Can there be cross-sensory experiences? Can the conscious agent intervene and adapt to such experiences? Does the feel factor always follow sensation and not vice versa? The case studies in synaesthesia (Ramachandran; Cytowic) and experiments in auditory vision invoke these questions and challenge our classical idea about the feeling defined by sensation.

In usual conditions, we experience our five senses discretely. But what if the causes and effects of sensations are mixed up? Synaesthesia [3] involves a breakdown in communication between areas within the brain, leading to a release of limbic processes which are, in turn, experienced as synaesthetic percepts (Cytowic 350). It is a perceptual condition of mid sensations. A stimulus in one sensory modality involuntarily elicits a sensation in a different sense, or senses. An internal intentional object is constructed during perception (Cytowic 350) without a corresponding external object of reference. synaesthetes also experience mid-sensations with the same modality. For instance, perception of a form may induce the perception of colour.

The mixing up of sight with sound (chromosthesia) is by far the most frequent synaesthetic experience. Colour, movement and geometric shape are typical properties of the synaesthete's sensations. For persons endowed with coloured hearing, for example, speech and music are not only heard but also a visual mélange of coloured shapes, movement and scintillation is experienced (Cytowic 16). The narration of the strange experiences that a synaesthete could have baffles us and questions our taken-for-granted notions about normality, beliefs, discrete sensory experiences and body responses that we think we have naturally.

Studies also show that emotion and the limbic system have a greater role in synaesthesia. Emotion, in fact, has a significant role in normal sensory function. Ramachandran's example of the sounds 'buba' and 'kiki' (Ramachandran) that give an image of smoothness and ruggedness to the listener encourages us to consider whether we have the natural ability to add emotional valence to sounds in everyday life.

The instances narrated above imply that feeling is not strictly predesignated with a sense organ. What we can assume is that there is a feel factor (due to the presence or absence of a sensation) that influences the brain to behave differently either by natural disposition (as in the case of synaesthesia) or by non-invasive techniques such as auditory vision. These instances question our standard ways of understanding the working of the brain. They also bring to light the place of the human self that constantly challenges the

brain and seeks adaptability to neural changes, through will power, the urge to experience, the hope to live better, and emotional richness.

Emotions that Reason

In technical discussions we tend to discriminate reason and its abilities to be the arbitrator to judge the 'objectivity' of a thought expressed in words. Often we take thinking to be a rational process and rate how people think accordingly. But is all of thinking reason based? Are our thoughts distinctly rational when we make decisions or a judgement, or designate a preference?

Not quite! Our thoughts are influenced by our whole personalities, and not just discrete reason-based calculations and assessments. The overall nature of thinking is not directed by a well-organised system of reason and its attributes, but biased by the attributes of the person who thinks the thoughts. His fears, desires, expectations, frustrations, joys, intuitions, values and emotions frame even a very rationally expressed thought. The only reason that such a complexity driving a thought is not very visible in its expression is because reason is influenced by subliminal tendencies sometimes not apparent even to the thinker.

Mainstream studies in cognitive sciences focus on reason-driven qualities of consciousness. When even a subject matter such as the feeling is studied in an exclusively rational fashion, Damasio's and Le Doux's (2002) approach to integrate emotion into the study of the self is noteworthy, though the method is mostly biological. Damasio considers consciousness and emotions as states of the body, more specifically, of the immune system. He uses Cartesian dualism as a point of departure. He argues, based on neuroscientific research, that reason and emotion are closely linked and at the same time distinguishes feelings from emotions (Damasio). There have also been studies arguing that even aesthetic emotion and aesthetic pleasure can be related to cognitive experience (Pouivet, 2000).

According to James (1884) and Damasio, feeling is a mental representation or mental map of the bodily state. Feeling is mental awareness whereas emotion is its visible effect. Emotion is physical and precedes feeling, which is mental. Emotion results in a physical behaviour and creates a neural map, which in turn leads to the feeling. A few scholars argue that there could also be what is called unconscious emotions, even though Freud did not attribute the unconscious nature to emotion but only to its cause.

> Emotions are not always felt. When emotion is felt, the feeling is an emotion: the emotion is a conscious perception of a patterned change in the body. But emotions can go unfelt: they can be unconscious perceptions of patterned changes in the body (Prinz 17).
>
> Emotions can also involve imagined perceptions.
>
> A real life emotional experience involves perceptions, thoughts and feelings, typically directed towards the object of the emotion. Recognition that one is having an emotional experience is not a necessary part of every such experience. So, if an emotional experience were to have an imaginative counterpart, then we would expect it to involve imagined perceptions, thoughts and feelings typically directed towards the imagined object (Goldie 131).

Can affective and cognitive processes be distinctly conceptualised? Jaak Panksepp argues in the affirmative with the suggestion of different locales for their origin and processing, based on the studies of animals.

Affects have a neo-cortical locus of control; they arise from broad-scale state control function - large scale neural ensembles in action; they are analog, less computational, and generate intentions-in action that guide action-to-perception processes, with many neuropeptidergic codes. In contrast cognitions have a neocortical locus of control; they arise from more discrete informational channel information. Thus cognitions are more digital, more computational, can generate perception-to action processes that can lead to intentions-to-act, and are profoundly dependent on rapidly acting amino-acid transmitters (Panksepp 173-174).

The cognition-emotion divide is presented in terms of somatic and felt differences by Damasio. Damasio echoes William James' idea that we first react with the body and then we feel. James talks about the transition from an 'object-simply-apprehended', through the sense organ, to an 'object-emotionally-felt'.

Developing the view of James on the bodily origin of emotion, a key hypothesis Damasio offers is the 'somatic marker', which highlights the importance of emotional learning in making effective decisions. There is an important role for feelings in reasoning. In a given situation, feelings enable us to narrow down the number of possible choices for an action. It helps us with consequential thinking and cautions about high risk

actions. The idea of somatic markers, according to Damasio, also has potential benefits in therapies for mental health.

With the help of historical medical cases [4] and his own case studies, Damasio (1999) demonstrates that impairment to the prefrontal cortical area (according to him, this is the seat of 'somatic markers') also impairs the ability to use reason or behave rationally. In short, to make rational decisions we need feelings as well. Emotion and feeling are equally important for the neural machinery, and are the foundation for biological regulations based on homeostatic controls. Neural processes and functions that are behind these mechanisms are distributed over several locations in the brain, their simultaneous working contributes to psychological phenomena. A reduction in emotion could contribute to irrational behaviour. Those with dysfunctions in decision-making seem to lack emotion, according to his studies.

As discussed in his book on feeling and emotion Damasio's concept of emotion and the place he gives to the interconnections between feeling and reasoning are a welcome relief from the dominant theories that see the self as a computational or problem-solving process. Taking a different route from the notion that emotion is a remnant of the reptilian or the old mammalian brain, Damasio brings emotion to the forefront of sophisticated self-expressions and also proposes a theory of self. For Damasio, consciousness is a process whereby the mind gets the reference called self. Yet, for him to understand the self is to understand its neural underpinnings and unravel the illusory sense of experience by its owner.

The Face of Emotions

The study of emotions and emotional experiences has a history that takes us to the fascinating accounts of Charles Darwin (1872) in the West and Bharata (ca. First Century CE) in the East. While Bharata, through *Natyasastra*, his magnum opus of theatrics and aesthetics, discussed the pervasive nature of emotions, their empirical expressions and states of origin, Darwin focused mainly on some of the basic emotions such as fear, from the observations he made during his voyages.

The Western taxonomies of emotion are more similar to the Natyasastra taxonomy for negative than for positive emotions (Hejmadi, Davidson, &Rozin 183). What is noteworthy, but hardly referred to in an historical account of the study of emotions, is Bharata's underlying view that vision, movement, felt feelings, and expressed emotions

are tied to the artist not just in an aesthetic sense but in both somatic and spiritual ways. The artist's self experiences an engagement coupled with detachment. Their agency brings in control of the somatic configurations, emotional expressions, while being in a receptive awareness to sensory and mental information from themselves and the audience.

A similar understanding is reported from a recent study of ballet dancers, which considers agency to be tied up with control, receptivity and transformation (Legrand &Ravn, 2009), and subjectivity to exist in movement. While our movement and gait are influenced and changed by emotional and other mental content at the prevailing time (Crane, Gross, & Fredrickson, 2006); amplitude, speed and fluidity of movement and gesture are indicators of underlying emotional process (Castellano, Villalba, &Camurri, 2007). Studies have also established that emotions can be recognised through multiple modalities such as face, body gesture and speech (Castellano, Kessous, &Caridakis, 2008). A cluster of studies presented at the 2012 Alzheimer's Association's International Conference in Vancouver linked physical changes such as changes in gait, to early signs before cognitive impairments became manifest (Paddock, 2012).

Emotion influences our body and subjectivity. The reverse also might be true to a certain extent in that the expressions on our face [5], and the style of motion we adopt also reverse influence the emotions that could prevail. The exciting question from the mutual influence between emotion and body is whether emotion has a primary or intermediary role in actualising the finer planes of self (Menon, 2011)? The ongoing discussion as to whether we can agree upon a set of emotions as basic, and whether the rest of the emotions can be worked out from them, is largely guided by the constituents of emotion itself rather than its impact upon the self.

It is a matter agreed upon by all of us that somehow our emotions have influences on our body and bodily organs. Our body and face represent the emotions felt, through different facial expressions, variations in temperature, and skin texture. A major debate in emotion studies is about the face and facial expressions. Charles Darwin brought in the relevance of facial and bodily expressions into the light of scientific discussion in his *The Expression of Emotions in Man and Animals* (1872). Darwin asked why a particular expression was associated with a particular emotion, and the ensuing work formed part of his demonstration of the continuity of the species.

Do the bodily expressions of emotion cause the subsequent experience of feeling an emotion, or does emotion cause movements and expressions of the body? This is a topic that has engaged psychologists, philosophers and physicians over the last century. A major attempt to trace the neural and anatomical correlates of emotions, primarily those that are described as 'self-conscious' emotions, such as embarrassment, pride and guilt (Dahlberg), might also help explain the function of emotions in general to contribute to and shape social relations. In recent times there is a resurgence in studying self-conscious emotions such as respect, embarrassment, pride, guilt and shame (Tracy and Robins) distinguishing them from basic emotions, and emphasising the self-sense.

> A sense of self as conceived by theorists since William James (1890) includes both an ongoing sense of self-awareness (the "I" self) and the capacity for complex self-representations (the "me" self, or the mental representations that constitute one's identity). Together, these processes relating to the self make it possible for self-evaluations, and therefore self-conscious emotions, to occur (Tracy and Robins 7).

> The significant neural areas and anatomical systems that are watched in order to trace the route of emotions from chemical to psychological space of the self are the limbic system, thalamus, insula and pregenual anterior cingulate cortex. The downside of such approaches is the assumption that emotions are evolutionarily driven and hence biologically primitive. It is also to be critically examined if each emotion is biologically basic and is a separate, inherited, complex reflex that is hardwired at birth (Barrett 30).

A comparative and collative study of basic emotions and emotion systems (Ortony& Turner) argues for affective valence, to feel positive or negative, to be the hallmark of an emotion. Emotion cannot generate neutral valence (though according to Aristotle 'indifference' is also an emotion). Following this argument one could ask whether complex psychological systems like desire can be moved out of the category of emotions? Geoffrey Madell (& Ridley 155) argues to the contrary: that some emotions are varieties of desire such as longing or yearning for something and some emotions are varieties of pleasure such as joy and elation.

It might also be not fruitful to categorize all human experiences under the rubric of emotions. Emotions are not a collection of various psychological functions. Emotions are typically experienced as unified states of mind, rather than as sets of components such as

belief, desire, physiological perturbation, and some behaviour (Roberts 184). The pervasive attempt to distinguish emotion and feeling, or to address emotion as a composite of components, has also faced criticism. Another author on emotions, Robert Solomon, writes:

> . . . insofar as a feeling is valuable in analysing emotion, feeling and emotion are neither distinguishable nor independently specifiable . . . [T]he sense of 'feeling' usually employed in the analysis of emotions is far too conceptually primitive to do justice to the richness and wisdom of our emotional lives (Solomon 654).

Another prominent approach towards emotions is to list a basic or fundamental set from which other emotions can be worked out. Emotions are innumerable even when they are classified under social, counterfactual and positive or negative. To trace a list of basic emotions, their neural correlates, and chart a singular biochemical route for the traversal of these highly phenomenal psychological phenomena might not aid in understanding their complex nature and existence. One of the reasons that emotion cannot be taken as an exclusive scientific category is that there does not seem to be a single feature that is always present in all emotional phenomena (Ledoux, 1998). Arguing against enumerating a few as basic emotions, and building the rest from a finite number of basic constitutive elements, a strong position is that emotions, like languages, cannot have basic building blocks (Ortony& Turner) and it favours a multi-dimensional approach (Barrett & Wager, 2006). These positions are in opposition with the naturalist explanation and the placement of emotions.

The Inevitable Feel Factor

Is emotion an overall representation of our experience, or is it only one way of expressing an experience which is otherwise much more than mental? It is important to also consider the possibility of emotion being only a partial symbol of human experience. After all, our actions and experiences are driven by values, beliefs, commitments, and world views. An ancient but poignant Yogic theory does not even consider the class of emotions to categorize all of human experiences, but uses a much more universal structure of 'pain and pleasure' division. All experiences, according to Patanjali, can be classified under the resultant pain or pleasure. And in a later part of his text, he says, in fact even pleasurable experiences can be reduced to pain (Swami Bodhananda, 2008).

Emotions are pervasive phenomena interconnected with physiological mechanisms and phenomenal meanings in our daily lives. They give us the feel factor through anatomical features (such as gut feelings) and psychological aspects. As unique individuals, we own and express different degrees of emotion, and thus some of us are described as 'warm' and some others as 'cold' in personality. Often, the degree of experience and expression of emotions is decided by the repertoire of our capabilities, dispositions such as our beliefs, desires, attention, and sensitivity to nuanced meanings, conceptualisation and visualisation. A number of philosophical traditions both in the East and the West have almost condemned emotions as obstructive agents in the progress towards realising the finer aspects of the self. At times, emotions are equated with outburst and uncontrolled behaviour that obstruct objective perception of a situation. But often, without feeling emotions and expressing them, we cannot communicate with ourselves let alone others. The delicate nature of emotions aside, without feelings we cannot accurately assess the inner worlds of others and ourselves, cannot bring in creative and imaginative outpourings, and add enrichment to our personalities. The feel factor of emotion is the unavoidable face of consciousness whichever way it is conceived theoretically, as basic, or otherwise.

NOTES

[1] 'Mary's knowledge' argument is a thought experiment that refutes physicalism, and states that in spite of the availability of all the objective physical facts of colour vision, the scientist Mary did not know what it was to experience colour vision until she moved to the real world from the confinement of a black and white room.

[2]Nagel argues in this famous paper that subjective quality is central to consciousness.

[3]The word 'anesthesia' means 'no sensation'. 'Synesthesia' means 'joined sensation' (Greek, ***syn*** = together; *aisthesis* = perception). Synesthesia may also be induced by sensory deprivation, hallucinogens such as LSD and peyote, or direct electrical stimulation of subcortical limbic structures.

[4]Phineas Gage (1823-1860) is one of the earliest documented cases of severe brain injury which led to significant findings. An accident destroyed areas of his prefrontal lobe, and consequentially led to loss of his emotional and social capacities. His rational capabilities

were intact to some extent. The damage interfered with Gage's capacity for planning and deciding a course of action. Damasio also narrates the case of Elliot who had a medical condition that affected the frontal lobe. He suffered from poor judgement and lack of insight, though he excelled in IQ tests. Patients like Gage and Elliot, though they perform well in cognitive and intelligence tests, show marked deficits in decision-making in everyday life.

[5]According to latest studies self-conscious emotions do not have discrete, universally recognised facial expressions, unlike the basic emotions.

REFERENCES

Barrett, L. F. "Are Emotions Natural Kinds?" *Perspectives on Psychological Science,*

- (2006, March): 28-58.

---. & T. D. Wager. "The Structure of Emotion: Evidence from Neuroimaging studies." *Current Directions in Psychological Science,* 15.3 (2006): 79–83.

Bayne, T. A, & D. Chalmers. "What is the Unity of Consciousness?" E. A. Cleeremans, *The Unity of Consciousness: Binding, Integration, Dissociation,* Oxford: Oxford UP, 2003. 23-27.

Castellano, G., L. Kessous& G. Caridakis. "Emotion Recognition through Multiple Modalities: Face, Body Gesture, Speech." *Lecture Notes in Computer Science: Affect and Emotion in Human-Computer Interaction.* Vol. 4868, 2008. 92-103.

Castellano, G., S. Villalba& A. Camurri. "Recognising Human Emotions from Body Movement and Gesture Dynamics." *Affective Computing and Intelligent Interaction, Second International Conference, ACII 2007, Lisbon.4738.* Ed. R. P. A. Paiva. 2007. 71-82. Berlin: Springer-Verlag.

Crane, E., M. Gross & B. Fredrickson. "Expression of Emotion in Body XE "body" and face." *Proceedings of the 6th International Conference on Intelligent Virtual Agents*, 2006. 452.

Cytowic, R. *Synesthesia: A Union of the Senses.* Cambridge, Mass: Bradford, 2002.

Dahlberg, C. P. "How Embarrassing: Researchers Pinpoint Self-Consciousness in the Brain." *Scientific American*, 2011, October 12.

Damasio, A. *Feeling of what Happens: Body and Emotion in the Making of Consciousness.* London: Heinemann, 1999.

Darwin, C. *The Expression of Emotions in Man and Animals.* 1st edition. London: John Murray, 1872.

Feinberg, T. E. *Altered Egos: How the Brain Creates the Self.* Oxford: Oxford UP, 2001.

Goldie, P. "Imagination and the Distorting Power of Emotion." G. Colombetti. Ed. *Journal of Consciousness Studies,* 12. 8-10 (2005):127-139.

Hejmadi, A. R. Davidson & P. Rozin. "Exploring Hindu Indian Emotion Expressions: Evidence for accurate recognition by Americans and Indians." *Psychological Science,* 2.3 (2000, May), 183-187.

Jackson, F. *Perception.* Cambridge: Cambridge UP, 1977.

James, W. *What is an Emotion? Mind,* 9, 1884. 188-205.

LeDoux, J. *The Emotional Brain: The Mysterious Underpinnings of Emotional Life.* Simon & Schuster, 1998.

LeDoux, J. *Synaptic Self: How Our Brains Become Who We Are.* New York: Penguin, 2002.

Legrand, D., & S. Ravn. "Perceiving subjectivity in bodily movement: The case of dancers." *Phenomenology and the Cognitive Sciences, 8,* (2009): 389- 408.

Madell, G., & A. Ridley. "Emotion and feeling." *Proceedings of the Aristotelian Society, Supplementary*. Vol. 71. Blackwell Publishing on behalf of the Aristotelian Society, 1997. 147–176.

Menon, S. "A first-person XE "person" Approach to Aesthetic Emotions in *Natyasastra*." R. Narasimha, & S. Menon. Eds., *Nature and Culture*. New Delhi: PHISPC and Center for Studies in Civilisations, 2011. 259-270.

Metzinger, T. *Being no One: The Self-model Theory of Subjectivity.* MIT Press, 2003.

Nagel, T. "What is it Like to Be a Bat?" *Philosophical Review,* 1974. 435-450.

Ortony, A., & Turner, T. "What's Basic about Basic Emotions?" *Psychological Review, 97*. 3(1990): 315-331.

Paddock. "Gait changes may Signal Cognitive Decline, Presage Alzheimer's." *Medical News Today*: 2012. http://www.medicalnewstoday.com/articles/247862.php. Retrieved Jan. 19, 2016.

Pouivet, R. "On the Cognitive Functioning of Aesthetic Emotions." *Leonardo,* 33.1 (2000), 49-53.

Prinz, J. "Are Emotions Feelings?" G. Colombetti, & E. Thompson. eds. *Journal of Consciousness Studies,* 12. 8-10 (2005), 9-25.

Ramachandran, V. A. *Phantoms in the Brain.* New York: William Morrow, 1998. Roberts, R. C. "What an Emotion is: A Sketch." *The Philosophical Review,* 97. 2 (1988, April), 183-209.

Russell, J. A., & L. F. Barrett. "Editorial." *Emotion Review,* 1.1 (2009, January): 2. Solomon, R. C. "Emotions, Feelings, Contexts." *The Journal of Philosophy,* 83.11 (1986, November): 653-654.

Swami Bodhananda. "Yogasutras of Patanjali." New Delhi: Sambodh Foundation, 2008. *Unpublished manuscript.*

Tracy, Jessica L. and Richard W. Robins. *The Self in Self-Conscious Emotions: A Cognitive Appraisal Approach.* eds. Jessica L. Tracy, Richard W. Robins and June Price Tangney. New York: Guilford Publications, 2007.

Films

Terminator Salvation. Dir. J. M. Nichol. The Halcyon Company, 2009. 115 mins.