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PSYCHOLOGY AND MUSIC: AN OBSERVATION OF THE EMOTIONAL ASPECT

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ABSTRACT

Science and arts are branches of knowledge generally conceived as poles apart. Whereas science seeks objective truths through experimentations; arts employ creativity as a tool for being more subjective. The aim of creativity in both is different. In fact, any art is dependent upon the physical properties of natural world for its execution. What we experience as art has a scientific basis which links itself to many branches of science like Physics, Physiology, Neuro science etc. In music, auditory physiology is linked with acoustics and creativity with neurology. The physiological and biological relation of music is precise when sound converts into electro chemical energy through the process called transduction which occurs in the ear, so as to reach the information to the brain. The auditory pathways to brain and the auditory cortices in the brain ensure the relation between neuroscience and music. The perception of melody and rhythm, music practice, performance and emotion in music are related to this branch of science. It is the physiological processes through which the brain goes through which determines whether the music heard is pleasing to the listener or not. This is related to certain psychological factors which explain how people perceive and react to music. A performance that moves a connoisseur into bliss/happiness/tears is the result of certain neural actions. The present paper tries to unfold the psychological factors which influence listening and performing music and also to unveil the contributory factors for the conveyance of emotions with examples from South Indian Music.

Key words: Psychology, Dopamine, brain, Ragarasa, Emotion.

I. INTRODUCTION

Psychology of music is concerned with understanding the psychological processes involved in listening to music, playing music and composing and improvising music, using empirical, theoretical and computational methods (Oxford Dictionary)

2. WHAT HAPPENS WHILE LISTENING TO MUSIC AS WELL AS SINGING AND COMPOSING MUSIC?

“A performance that moves you to tears is ultimately the result of a chain of neural reactions and can ultimately be understood in these terms. The emotional response of the listener likewise, is understood as the brain’s response to sensory input from the performer.”(Siu-Lan Tan, Peter Pfordresher and Rom Harre, 2010) Neuroscience has

many advanced techniques like EEG, PET and MRI to visualize the activities of the brain and the experiments conducted so far, illustrate that a person's likeness to a song is determined by certain physiological processes through which his/her brain goes through. The brain's ability to process the underlying structure of a certain type of music and to predict what will come next in the song on the basis of past events decides the listener's appreciation of the same. The auditory cortex of the brain is active when we imagine or listen to a tune. It enables us to make predictions about the coming events in the song.

"Music is more rooted in the brain structures that are involved in motivation, reward and emotion" (Mohana.M, 2013). Valorie Salimpoor a neuro scientist at McGill University in Montreal conducted a study which announced the concrete link between dopamine release and musical pleasure. This was the first study to report that dopamine can be released in response to an aesthetic stimulus." When pleasurable music is heard 'dopamine' the neuro transmitter is released in the striatum-which is known to respond to naturally rewarding stimuli like food and sex".(Zatorre.R.J & Salimpoor V.N,2013)" Elegant work combining PET with MRI has demonstrated that transient peaks of pleasure experienced during music correlate with release of dopamine in ventral regions of the striatum(NA) distinct from more dorsal sites of dopamine release associated with anticipation of the corresponding musical moments. Feelings of 'chills' triggered by one's preferred music also correlate with increased activity in both striatum and insula accompanied by transient reduction in activity in amygdala, anterior hippocampus and ventromedial prefrontal cortex" (Blood & Zatorre, 2001).

Genetics and the manner in which one is nurtured have equal role in determining one's likeness to a particular song/genre/style of music. The habitual exposure to a particular music, and the socio-cultural environments wherein one lives certainly have influence over one's tastes. It is also understood that our musical preferences reveal our own inner feelings for some prefer music for mere entertainment some for enhancing the mood and some others to evoke their intellectual curiosity.

2.1 Psychology of singing

"Singers are generally referred to as the gifted few. The psychology of music performance is a complex and fascinating topic. The performer must co-ordinate many cognitive, perceptual and motor functions including planning, execution, the use of feedback and on line adjustments of planning" (Sin Lau Tan,2010).Music performance is a memory task. Creativity/improvisation is characterized by widespread activation all over the brain centres and not limited to any single region or brain side.

"Professor Daniel Levitin, a neuro scientist and composer unpacks the mystery of emotion in music by explaining how the brain's emotional, language and memory centers are connected during the processing of music". (Mohana. M. 2013) The extent of this connection varies from person to person which explains why some can create music full of emotion while some others cannot. The act of singing releases 'endorphin', the feel-good chemical and 'oxytocin' the hormone which

releases tension, in the brain. Congregational singing can improve one's confidence level.

A singer's mental state is totally different from that of the listener, the former even though an accomplished artist may be experiencing certain levels of tension at the outset of a performance while the latter is in a free mood ready to drink the nectar of music. The initial mood of the singer may heighten /becomes lighter with the uncomfortable/congenial atmosphere during the performance. With all his abilities hidden in the physiological structure of vocal cords, he depends upon the electronic devices for amplification, balancing and the inevitable feedback on the stage for the proper execution of the performance. The support by the accompanying artists and the harmonious blending of all the performers on the stage contribute to the success of a performer.

2.2 Psychology of composing

Composing is a more in- depth task which provides the material for the singer to convey the emotions. For a pre planned music (song/composition) the composer's imaginative ability brings forth the desired effect in the listener. In Indian Music the lyrics also being contributed by the composer speaks of the relation between music and language. Here the domination of raga or melody in a musical item subdues the role of lyrics to a secondary level (which includes the undue lengthening of vowels, the stress or emphasis on certain notes that split the syllables etc). While doing improvisation in a South Indian concert, what the singer does is the picturisation of a raga in its varied contours or he/she is bringing forth the "raga/gana rasa" or music specific emotion. The happiness or sadness felt by the listener is due to the enjoyment of "ganarasa".

3 WHAT CONTRIBUTES TO THE EMOTIONAL CONTENT OF A SONG?

The composer contributes the lyrics, music and tempo for the song to which the singer gives life through dexterous singing. The determining factors of emotions contributed by the singer includes his involvement in the singing, the precision and clarity of notes, the proper maintenance of the tempo along with natural gifts like the quality of the voice- the depth and resonance of the voice texture, the easiness in traversing through all voice registers etc.

In India, melody/raga has been endowed with peculiar bhava or emotions depending upon the curves, blends and glides (gamakas) to which the notes are subjected. Ragas are capable of evoking 8 or 9 rasas or emotions. In ancient days, each note is assigned a rasa. It is a common notion that higher variety of notes produce happiness whereas lower varieties create sadness. Slow tempo/laya creates sadness, gloominess etc while speed tempo produces happiness, vigor etc. In applied music (especially when applied for drama and films) both lyrical and non-lyrical music, vocal and instrumental music are employed to evoke the intended emotion. The ensemble of instruments can do wonders in creating the mood through the appropriate usage of tempo as well as voice registers. The zig- zag movements of notes can create the feeling of fear, disgust etc. The stress given to certain notes and the speed tempo along with the usage of upper voice register can

create the feelings wonder, anger etc. The role of lyrics is crucial in defining the mood of a song in applied music. Acoustic features like the timbre of an instrument like violin or Sitar can affect the emotion of a song. But a genius can violate all the rules and create variety of emotions with any raga by manipulating it in various ways.

4 CONCLUSION

Music is the language of emotions and subjectivity is its hallmark which enables each person to interpret it in his own way. The emotion felt by the connoisseurs listening to the same music therefore vary definitely. The positive effect of music on the activities of brain reveals the inter relationship between psychology and music and the wide scope for further studies.

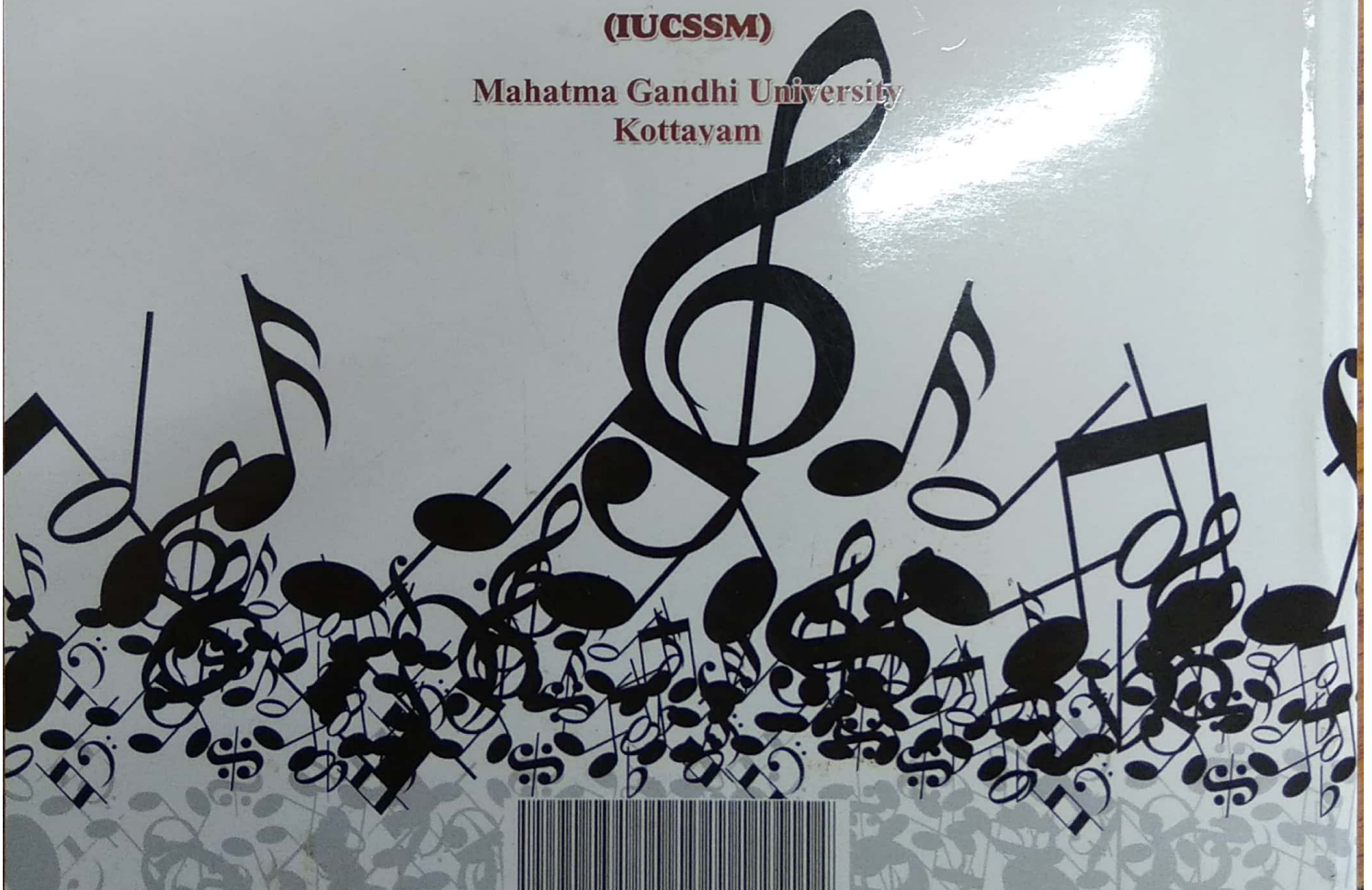
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