INTRODUCTION

Raga and rasa, are the two prominent terms that invariably figure in the context of Indian classical music and Indian aesthetics, respectively. Association of specific rasa with svara (note), jati (ancient modal pattern) and druva (jati-based vocal compositions) as theorized by Bharata, finally culminated into 'raga-rasa' relation. In spite of the two long millennia that have passed after the postulation of rasa - theory, the concept survives in literature on music, with all its essential details. On the performing front, the raga-performances invariably reflect a characteristic 'aesthetic atmosphere'. Further, the ability of a performer to invoke the characteristic aesthetic atmosphere of a raga, is a measure of one's musicianship. Hence, training, practice and performance related to raga, reveal the musicians' efforts being constantly and consciously directed towards creation of the aforesaid 'atmosphere', often described using colloquial expressions like raga-bhava, mahaull, rang, prakriti etc.

Nonetheless, when directly questioned, most of the performers today, hardly ever show any concern towards the aspect of rasa. The music-rasa principle was enunciated in the context of 'gana' type of music, which constituted an integral part of drama. Due to basic differences in the ancient jati-based 'gana' type of music and the raga-based contemporary music, there are serious limitations in extending the paraphernalia associated with the former to the
latter. As a result, musicologists and a minority of academically oriented musicians having insight into the subject, have expressed serious reservations about the direct extension of rasa theory to raga music. Further, in the light of subjectivity involved in raga-performance, listeners and performers; changed socio-cultural values and aesthetic norms, the specificity attached to raga-rasa relation has become a questionable issue. Hence, the musicians seem to be hesitant in accepting the idea of associating a raga with a specific rasa. This discussion may suggest that the formulations regarding raga-rasa theory, have perhaps reduced to no more than mere theoretical formulae bearing no practical significance at the level of performance. Thus, there appears to be a gap between the textual tradition and the performing tradition of raga-music, regarding the attribution of a particular rasa to a raga.

The present endeavour is aimed at abridging the divergence that exists between the theory of rasa and its actual realization, in the context of contemporary raga-music. Although a consistent relation between a raga and a specific rasa, cannot be logically defended, the fact that a raga projects a characteristic musical idea, resulting into a unique aesthetic atmosphere capable of arousing a neuropsychological response, cannot be ruled out. The highest level of aesthetic experience, akin to 'ananda' or the eternal bliss, is a reality in music. The present work is based on this premises.

A scientific approach to further our understanding of 'aesthetic appeal' resulting from a raga-performance, includes physical analysis at the level of source as well as
physiological and psychological studies at the level of perception. The present study restricts itself to, only physical (acoustical) investigation of the source of music. The 'tonal configuration' related to raga, is the most significant aspect that has been traditionally accepted to influence the 'aesthetic appeal' or the rasa at the perceptible level. Since aspects of 'intonation' and 'melodic movement', together constitute the 'tonal configuration', for the purpose of present investigation, these aspects have been analysed. Considering problems of correlating the physically measured parameter of 'frequency' representing the pitch (intonation), audibly perceived parameter of 'tonal configuration' and visually evaluated element of 'melodic shapes' (through melodic contours obtained on computer monitor) with the neuropsychologically perceived abstract feelings, scope of this study is limited to ascertain the presence of similar intonation and melodic movements in performance of a given raga by different performers. Such similitude of intonation and melodic movement, if found, can suggest a correlation between the tonal configuration of the raga and its aesthetic effect. Analysis of 'alap' in a performance of 'khayal' in raga 'Yaman' by late Ustad Amir Khan, Pandit Bhimsen Joshi and Dr. Prabha Atre, has been carried out using two independent computer set-ups, viz. 'Melodic Movement Analyser' (MMA) and 'LVS'.

Although the above systems can objectively evaluate pitch, its interpretation for aesthetic relevance demands a constant involvement of a musically trained person, which
brings in subjectivity into the study. Considering a fresh approach required for the present study, a working methodology had to be evolved by trial and error method, after having acquainted with routine procedures involved in operating the system in various modes. A pilot study was conducted to test the validity of this methodology. These preliminary procedures aimed at standardizing the technique for analysis of intonation and melodic movement of a raga, performed in the North Indian classical tradition (hence forth simply referred as Indian music), were found to be laborious and time-consuming.

The rasa theory formulated by Bharata and its application to svara (notes), jati-s (modal pattern) and druva-s (songs) was exclusively in the context of drama, which included music. In the later period, many lakshana-grantha-s (authoritative treatises) on music have upheld the same associations in the form of raga-rasa. Even when music was recognised as an art independent of drama, equations relating a raga and a specific rasa, continued to flourish. In the absence of a visual (histrionics) and/or a textual element (as in case of instrumental music), the traditional paraphernalia of cause-effect (vibhava-anubhava) associated with rasa theory, can be applied only to the tonal structure. This limitation has been already recognised by the contemporary musicologists like Dr. Premlata Sharma, Acharya Brihaspati, Thakur Jaideva Singh and others. Realising the truth about the eternal bliss resulting from music, they have suggested new approaches of theoretical nature for restating the rasa-theory in the context of contemporary raga-music.
In the present study, an empirical approach has been adopted for examining raga-rasa theory. The similitude of tonal configuration comprising of intonation and melodic movement, observed in the performance of a raga by different vocalists, allows to correlate tonal configuration of the raga with its unique identity and consequently to the aesthetic atmosphere projected through that raga. These findings prove that a raga has a characteristic atmosphere. The elements such as sahitya (text) and laya (tempo), together with variant factors like tonal quality of voice and instrument, do bring in various shades of moods which are of transitory nature. The traditionally prescribed rasa-s like shringara, karuna, shanta etc. may be perceived at times in this context. The present endeavour suggests that aesthetic effect due to the tonal configuration of a raga, constitutes core of the total aesthetic experience or the rasa, while the effect due to varying elements constitute its periphery. The wholesome combination of the two aforesaid factors, lead to an integrated effect of rasa. However, no specificity can be attached to this experience in terms of a specific rasa. It can be described as gana-rasa or the rasa emerging from musical exposition. Whatever be the nature of transitory moods, the gana-rasa leads a listener to an experience of ultimate reality - 'ananda' or the eternal bliss.