A PILOT STUDY OF HINDUSTANI MUSIC SENTIMENTS

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ABSTRACT

Music is a universal language to convey sentiments. Hindustani classical music (HCM) has a long tradition and people from various cultural backgrounds are fascinated by it. Each performance of a given raga in HCM is supposed to create a common mood among most listeners. We have selected solo instrumental clips of bamboo flute for pilot study. We have chosen one instrument in order to eliminate the effect of words in vocal and effect of different timbres. We selected 2 ragas and 3 clips of each raga to understand possible sentiments created. We had total 4 sessions with 20 novice listeners and played 2 clips per session. Listeners have given rating for 13 sentiments on a numeric scale. From the Listener's feedback, we have stated our own observations about the sentiment creation. General sentiments felt by novice Indian listeners were found similar to the expected mood of specific raga.

1   Introduction

Communication is done via two modes such as verbal and non verbal communication. Verbal forms such as speech, talk or non verbal form such as letter, email, SMS are means of communication used with specific purpose. The purpose of such communication may be just to inform someone, without any specific sentiments involved in it. Verbal communication like a technical session by the instructor to students does fall under same category. In such communications, sentiments may or may not get conveyed along with matter to the listeners or target audience.

People do use different means such as body language during talk or impact on specific words during speech to convey specific sentiments. In written communication, use of specific words, exclamation marks etc. can be used to express the sentiments. Since many years, the sentiments are also conveyed in abstract way using different art forms such as music, dance, drawings etc.

In Music, a performer or composer conveys certain feelings or sentiments to the listener through musical language. Music is considered as universal language to express sentiments as it does not require understanding of any specific spoken or written language. Each musical form has its own ways of expressing sentiments. A performer or composers convey the sentiments according to their own perceptions considering target audience. They use different means such as tunes, instruments, voice, rhythms and their combination to convey sentiments. They can have different styles or different school of thoughts to express music.

If we compare music with natural language, we find similarities of structure. However, semantics of our language is designed to communicate information, thoughts, ideas, whereas semantics of music are aesthetic. The following mapping constitutes our hypothesis (Table 1).

Ingredient	Natural	(Raga) Music
Fundamental unit	Alphabets	Swars/notes
Smallest unit with	Words	Phrases of 2 or more melodic notes
Smallest complete unit	Sentence	Avartan or multiple phrases together with indication of conclusion / start.

Table 1 -Mapping Hypothesis

In the Indian performing arts, a rasa is an emotion inspired in an audience by a performer. They are described by Bharata Muni in the Natyasastra, an ancient work of dramatic theory. We generally observe Sringaram or love, Karunyam or tragedy, Shantam or peaceful, bhakti or spiritual devotion are prominently observed sentiments in Indian Music. It is generally very difficult to represent all feelings or sentiments in exact words. User created tags with exhaustive vocabulary can be possible solution for individual expression of sentiments.

In case of music, there are many factors responsible for sentiments creation. We can classify them in two broad categories as listener's perspective or felt sentiments and performer or composer's perspective or expected sentiments. Listener's background about specific music form, attention towards different musical features, specific mind set etc. are important factors in

listener's perspective. Musical contents such as the notations played in specific musical clip, specific musical phrases, tempo, timbre, instrumentation, ornamentation etc. are factors from performer or composer's perspective. Sentiments can be conveyed in actual performance using different techniques such as emphasis on specific musical phrases, proper use of pauses, voice modulations etc.

2   Related work

Martin Clayton makes the following points in his article "Towards a theory of musical meaning" (Clayton 2001):

- Musical experience depends on our attention primarily on auditory information and perhaps in the extent to which sound information is understood in a non-linguistic mode.

- Each individual perceives and decodes the information differently. Thus the meaning or experience is always experience to someone.

- There are many more ways in which musical experiences are meaningful. Auditory information can be understood metaphorically as patterned movement independently of its parsing into elemental notes.

We need to recognize that musical experience is meaningful in a variety of ways, that these ways are interconnected, and that the relationships between different dimensions of meaning are important.

Achyut Godbole (Godbole 2004) has discussed expressions created from different ragas in Hindustani music. Raga is a framework of rules for building melody, which has the power to produce many similar-sounding melodies. The art music of Northern India, known as Hindustani classical music (HCM) has evolved to its present form over at least the last 600 years. Bhatkhande (1957) mentioned about the conventions for raga and documented different compositions in ragas. HCM Raag-mala (2004) has thrown more light on current practice of raga performance. A "raga" in HCM (roughly a mode) is supposed to create a common expression among listeners.

Kai Tuuri (2007) defined different modes of listening. Active listening involves scenarios such as concerts. In case of passive listening, listener is generally involved in doing some other primary activity along with listening music in the background. Different emotional models such as 7 keyword mood model used by Yi Liu (2009) for Chinese classical music or Thayer's 2-D emotional model widely used by music researchers have attempted to model listener's emotions in different ways.

3   Preliminary work

The sentiments created by music in different listeners, or even the same listener at different times, may vary. The response of a listener depends on many factors such as cultural background, upbringing, mood of the listener and individual likes and dislikes as factors related to individuals. The response is also dependent on the attention of the listener towards timbre of voice or instrument, notes played, tempo and rhythm in the clip. Although it is difficult to catch

the common expressions from any music form, we have attempted to find, as far as it is possible, the common sentiments created by HCM on Indian listeners with similar cultural background. Meaning or expression from music can be entirely different depending on the focus of the listener. Sentiments perception is subjective to every individual in any music form.

HCM has a long tradition and people from various cultural backgrounds are fascinated by it. Each performance of a given raga in HCM is supposed to create a common sentimental mood among most listeners. HCM has evolved to its present form over at least 600 years. The khyal form of vocal music and instrumental presentation mimicking vocal styles are relatively recent developments in HCM. We have chosen instrumental music as we intend to associate sentiments perceived to listeners with composition of raga.

We have selected one wind instrument Bansuri or Bamboo Flute for our study of sentiments. Bansuri has also long history and is also associated with lord Krishna in Hindu religion. In recent years, artist like Pandit Pannalal Ghosh, Pandit Hariprasad Chaurasiya etc. are the main contributors for popularizing Basuri among HCM listeners. We have chosen 2 ragas - Marubihag and Marwa - for our initial sessions as the two are perceived to create different sentimental moods. Marubihag is supposed to create happy and excited mood whereas Marwa is supposed to create sad and depressed mood. It is very difficult to extract the sentiments in exact words. We attempted to find the possible sentiments for the musical clips selected from the seasoned listeners. This exercise provided us many possible keywords or tags with synonyms to represent sentiments. Figure 2 shows the distinct sentiments referred by seasoned listeners, which we used for the experiments.

A	Happy	H	Surrender
B	Exciting	I	Love
C	Satisfaction	J	Request
D	Peaceful	K	Emotional
E	Graceful	L	Pure
F	Gentle	M	Meditative
G	Huge		

Figure 2– Sentiments list

4   Experiments for sentiments extraction

We decided to use novice Indian listeners as subjects in our sessions to understand the sentiments created from the raga music, since seasoned listeners have their predefined mindsets built through listening to raga music for years and knowledge of convention. We have discussed with Pandit Keshav Ginde (Ginde 2011), renowned bansuri player, about the sentiments associated with ragas, use of gamakas (inflexions in notes) and his own experience while presenting specific ragas. We discussed about features of bansuri performances and perceived feedback from the listeners. He advised us about suitable duration and presentation of performance considering the listener's level and background.

The HCM performance usually has 3 parts: first alap, followed by vilambit (slow tempo) or Madhya laya (medium tempo) and finally drut laya (fast tempo) presentation. In alap, raga notes are played or sung with slow tempo to build the atmosphere at the beginning. During alap, there is no rhythm accompaniment.

We selected 3 clips of each raga. Out of these 3 clips, we had one clip each of alap, Madhya laya and drut laya. Generally duration of alap and drut laya is small as compared to Madhya or Vilambit laya during the performance. We selected all clips of duration of about 2 to 3 minutes regardless of the duration of the corresponding section in the performance. We selected the duration of 2 to 3 minutes considering the attention span of novice listeners and an assumption of the minimum time required to generate the sentiments.

After getting feedback about possible patience of novice listeners to listen classical music, we decided to play 2 melodies per session with a gap of about 5 minutes between two melodies. We decided to play clips with similar tempo in each session to eliminate the effect of comparative tempo difference during session. We had total 4 sessions with about 20 listeners in each session. Out of 4 sessions, two sessions were for Madhya laya (medium tempo) considering the total duration of Madhya laya during performance.

5   Observations from the experiments

Since most of the listeners were in the age group of 18-20 with almost no exposure to HCM, we kept an open mind about the outcome of the sessions. We gave them a brief introduction before the session, explaining the objective of session and how to fill the feedback forms. This exercise helped us to bring the mind sets of all listeners into a common mode of listening and to experience the mood created from the clip.

Listeners gave rating to different sentiments on the scale of 0 to 100. For example most happy can be 100 and most sad can be 0 for the sentiment "happy". Listeners expressed their experience in their own words in addition to rating the given list of sentiments. We also held personal discussions with some of the listeners to understand the effectiveness of the session and understand their view points about listening music. The exercise of discussion after session has given us insight into thought processes of youth representatives.

We have presented comparative data for 2 ragas Marwa and Marubihag (MB) in 4 different charts as Madhya laya, Alap, Drut and overall data (Appendix). Chart values represent average response of all listeners for respective sentiments on the numeric scale 0-100. We can analyze various sentimental parameters at different tempos for 2 ragas in 3 charts and overall data represents averages of all responses to our selected ragas.

We have observed the pattern for each sentiment for all charts. Marubihag is perceived as happier in all compare to Marwa except in the case of drut responses where both are perceived as equally happy. Marubihag is perceived as more exciting and graceful than Marwa in all tempos. Marwa is appeared as huge and creating stronger feeling about surrender, love, satisfaction, purity and peace compare to Marubihag except during fast tempo clips. Marwa is considered to convey request and emotions more than Marubihag except in Madhya laya. Marwa

was considered to be more meditative than Marubihag except during alap. Marwa is perceived as sadder and more pleading as compared to Marubihag. This is most prominent in the response to alap and Madhya laya clips.

Listener's attention towards rhythm in drut laya can be major factor for change in pattern in many sentiments for drut laya. During drut session, Order of clips can have some impact on sentiments in drut and alap sessions. Fast tempo seems to be the most important factor in creating "excitement". Overall sentiments perceived by novice listeners were analogous to the raga sentiments expected as per seasoned listeners.

Conclusions

Shudhdha note prominence in raga maru bihag reflects happy mood and komal note prominence in marwa reflects sad sentiments. This is similar to major and minor chords in the western music and their possible association with emotions. Tempo of the music along with notations do play major role in sentiments creation. Faster tempo will reflect in more excitement. Expected sentiments in the domain of composers or performer perspective can be common whereas felt emotions is individual or subjective domain of listener may be different. For similar musical background listeners, the sentiments felt for familiar musical form will be generally similar for specific musical clip.

Future work

We have plans to conduct similar sessions with clips of different ragas, and other sessions with clips in the same raga with wider range of instruments to verify our observations about raga and observe inter-instrumental differences. We are of the view to conduct sessions with clips of different duration to verify our assumption about the minimum time span required to affect the mood of the listener. We plan to conduct more experiments with smaller duration clip with specific musical phrases to associate possible sentiments with musical phrases.

References

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Appendix

Alap

Madhya Laya

Drut Laya

Emotions

overall Data

Emotions