

APPENDIX

Late.Pt.N.V.Patwardhan

Traditional Guru

Ex.H.O.D Vocal Department, Faculty of Performing Arts, M.S.University of Baroda

Along with my education in Science stream, I was learning the art of singing North Indian Classical Music and I was imparted training for almost 10 years. During my training, I could notice in my Guru's singing of the ragas like Darbari, Multani, Todi etc, minor difference in usage of swar. I asked him whether is it possible to find out these differences scientifically? At that time, he told me that yes, it is possible, you can take up the research project in future, and I am sure that you will come out with good results. Encouraged by him I started thinking on the subject and put my efforts.

Prof.R.C Mehta

Musicologist, Ex-Dean Faculty of Performing Arts, M.S.University of Baroda

Your research topic is good as it establishes Science – Music relationships. He also told me to go through the books on research work, namely 'Directory of doctoral thesis in music' (In different Universities) and 'Music research' written by him. I had gone through both the books, and did not find this topic of research in the book. He was very happy that this is a different type of research in the North Indian classical music. After going through my research subject, he was satisfied.

Pandit Atulbhai Desai

Disciple of Pt.Omkarnath Thakur

We had a good discussion at his place in Ahmedabad about my research. After that, I also send E-Mail about progress of my work to him for further suggestions when he was in US for some time during my research. He expressed his deep satisfaction for the research work carried out by me.

Prof.DRS.Somayajulu

Ex. Head of Physics Department, Faculty of Science, M.S.University of Baroda

I do give credit to my professor who inspired me during my postgraduate study in Science to make some research work on the behaviour of swar during singing. After my registration in Ph.D, he allowed me to carry out experiment in the laboratory under his guidance. He enhanced my knowledge on the research topic from the very beginning to almost end of my thesis. He expressed deep satisfaction for being successful in my efforts, my approach, and presentation.

Dr.P.M.Shah

Ex Reader Physics Department, Faculty of Science, M.S.University of Baroda

"It is a Good Scientific approach to make musician more aware. Music is related to Science and this fact you have now rightly established." He also said that this research would definitely open the doors of further research in this direction. He was happy to go through my research work and found it satisfactory.

Mr.Shailin Vaishnav (USA)
Computer Engineer & Vocalist

After a long discussion with him, he expressed following views.

"I am happy to know your science based research on classical music. Your education in field of Science and Music will help to make the singers know about their variation in raga singing. It is helpful for the musician to present their raga with greater precision. I feel that if the outcome of your research is imbibed during the education of music, students can learn with the concept of Science. We know erratic behaviour of human voice. Due to several factors affecting human voice, variation is bound to occur but if the artistes know this difference it may certainly yield good results."

Shri Gaurangbhai Trivedi
Guru

He is a learned person and a classical singer too. He has helped me to enhance my knowledge and encouraged me during my research work,

During the conversation with him, he felt that frequency variation in the ragas may be due to the individual's perception about that raga and it may also depends on training given on that raga to the person but if this concept is well understood and known than definitely the performance of Indian Classical Music will be more impressive.

Shri Rajesh Kelkar
Master of Performing Arts (Vocal), Ex-Lecturer in Vocal Music, Faculty of Performing Arts,
M.S.University of Baroda

He was very hopeful about the result of the thesis. He told that the difference in the frequency in different ragas might be due to the difference in their language-based pronunciation of different singers. He also gave reference of Pt.K.G.Ginde's recording in connection with the research.

Dr.Ravi Sharma
Reader,M.D.University,Hariyana

I met him at Baroda who spared his valuable time to go through my research work. He appreciated and expressed satisfaction. He said that research is good.

Communication. (E-Mail/Phone)

I have sent E-Mail to the following artistes whose cassettes I used in my research. I got reply from Shri Sanjeev Abhyankar, who told me to talk to him on certain date; I talked to him on phone. The conversation I had with him is given hereunder. Luckily, I was able to meet personally to Pt.Rajan Sajan Misra and Pt.Ulhas Kashalkar when they had their concert at Baroda. I talked about my research to them and their comments are given hereunder. Rest of the artistes did not reply to my mail due to some or the other reason.

<u>Name</u>	<u>E-Mail address*</u>
1. Pt.Rajan Sajan Misra	-rajansajan@yahoo.com
2. Ustad Rashid Khan	-raagshree@ustadrashidkhan.com
3. Shri Sanjeev Abhyankar	-Sanjeevabhyankar@gmail.com
4. Pt.Ulhas Kashalkar	-Ukashalkar@yahoo.com
5. Pt.Vishwamohan Bhatt	-bhattvm@yahoo.com
6. Pt.Ajoy Chakraborty	-shrutinandan@shrutinandan.org
7. Pt.Hariprasad Chaurasia	-info@hariprasadchaurasia.com

Padmabhushan Pt.Rajan Sajan Misra
Vocalist, Banaras Gharana

He was very much happy and said that this is a very good research in the music field.

Pt.Ulhas Kashalkar,
Vocalist, Gwalior Gharana

He told that he does not have clear idea about this subject but it may prove to be a good kind of research useful to musicians.



Shri Sanjeev Abhyankar
Vocalist, Mevati Gharana

He accepts the differences in the frequency in different ragas while singing. "Variation is attributed to human voice being natural does not remain the same. Education in the field of research and positive efforts certainly is a boon to musicians. Musicians have different voice culture it being natural, does not behave as machines where you can expect the same out put. Research is good."

*Sample Copy attached

This is a sample mail sent to the artiste. Same type of mail I have sent to other artistes by changing ragas.

Date: Tue, 21 Nov 2006 23:24:01 -0800 (PST)

From: "trushit vaishnav" <trushit_vaishnav@yahoo.com>  Add to Address Book  Add Mobile Alert

To: Sanjeevabhyankar@gmail.com

From: Trushit Vaishnav
trushit_vaishnav@yahoo.com

E-Mail:

To,
Respected Sanjeevji,

Sadar Abhivandan

It gives me a great pleasure to forward this mail to you. I introduce myself as Trushit, a classical vocalist. I am a research student of Faculty of Performing Arts, M S University of Baroda carrying out a project work on the subject 'STUDY OF RAGAS OF INDIAN CLASSICAL MUSIC WITH REFERENCE TO TONAL FREQUENCY AND INTERVAL (FREQUENCY RATIO) OF SWAR' of North Indian Classical Music.

In Indian Classical Music, it is not enough to produce just twelve swars in a Saptak. One ought to produce even the intermediate frequencies which do not have any keys to produce them they are called Microtones. The microtones add variety to the Indian classical music - an extra dimension. For this work, I selected some of your cassettes to analyze ragas of Indian Classical Music through a software, and found the frequency of each swar in each raga and the associated Interval. Using that Interval, I compared ragas. I selected raga Poorvi and Nat Bhairav from different cassettes.

This is observed from the analysis that all Indian notes, except sa, can move a microtone depending on the ragas. The same note of raga differs from artiste to artiste and for the same artiste time to time. I am much obliged to you if you could direct me the reason for this happening. Is it spiritual and mythological thinking behind this? or individual thinking about that raga works behind this? Perhaps for this reason

harmonium is not a suitable instrument for accompaniment of Indian classical music.

Scientific approach of the 22 srutis enables us to sing and play the ragas better and with greater feeling. It will also help immensely in teaching our music to students. For example, we can tell the student that the so-called komal gandhar of raga DARBARI is actually lower and different from gandhar of another ragas and he should use the next lower variety of gandhar (in the scale of 22 srutis), and so on.

As the Indian musical system is modal, relation between successive sounds and those between any sound and fixed tonic (Reference note) are of great importance. In modal music, one can have many exotic scales. There is only relationship between one note in the scale and sa. Thus, in a seven-note scale we have seven relationships.

For Indian classical music, standardization is not done Scientifically in terms of the frequency and in past scholars gave frequency of swars only by assumption.

Kindly give your valuable comments at your earliest as I have to submit this project work very soon. My contact details are given at the top of this letter.

Thank you,

Sincerely yours,
Trushit vaishnav