PROFESSOR: My name is Mark Harvey and I'm currently teaching a course called Musical Improvisation. And this demonstration is part of that course in collaboration with [? Mitas ?] and Phil Scarff, who's the leader of Natraj, which presented a great concert yesterday. I know some of you were there, but if you weren't there, maybe you'll be able to hear Natraj again in another setting.

And so, Ravikiran is the other presenter. He'll be coming a little bit late, but he will be here. So we're going to begin with Phil.

PHIL SCARFF: So today's workshop is going to be on application of frameworks from Indian classical music to improvisation in other idioms. And in Indian classical music there are two major systems. They're really two different idioms. There's North Indian classical music, which is also called Hindustani music. And there's South Indian classical music, which is also called Carnatic music.

So I'm going to be talking about Hindustani music today. And our guest Chitravina Ravikiran will be covering Carnatic music after I talk about Hindustani music. So it'll be interesting to see the contrast between the two. So you might want to pay attention to that.

So what we'll do is, you've got a handout. I see people seem to have that, so that's good. So I'm going to talk about a number of things that are outlined on the handout. I'm going to demonstrate some stuff as we go through. If you have questions feel free to raise your hand or whatever as we go, because I'd rather take the questions as we go than lose people if I'm going off on a tangent and you don't follow me. Probably other people have similar questions, too.

So what I'm going to do to start with is, I'm going to present an alap in raga

Hamsadhwani. For those who were at the concert yesterday, we played the piece "Red Swan," which is in raga Hamsadhwani. So this sort of ties back to the concert.

I'm not going to go too much into the nuts and bolts of ragas. There'll be a little bit of discussion here and there as needed to cover the frameworks, but this is more about sort of a higher level view of Indian classical music and how the frameworks from that music can be translated to other situations.

So I'm going to play an alap, which is an exposition of the raga. It's done kind of solo with no percussion, just melody. And it starts out without meter. And it can evolve to a point where there's sort of an internal meter going on, but there's still no percussion.

So what I want you to do is listen to this and pay attention to some of the things like how we're making use of range, note density, rhythmic development. Well, mainly those things. We'll talk about some other things afterwards. But listen for those things and then we'll discuss them after I finish.

[MUSIC]

[APPLAUSE]

Thank you. OK, so did anybody notice anything about range-- the use of range in that? Yeah.

AUDIENCE: It seemed to start in the lower end of the range and slowly build up to through the entire range.

PHIL SCARFF: Yeah, that's right. Very good. And this is very typical of a Hindustani alap. It starts around the low tonic. It may kind of build into it and work a little bit around it, but the focus is going to be on introducing that tonic and sort of establishing the tonic.

Then, you can optionally move down, which I did a little bit of, and you can expand the range downward. Then you can start expanding up. And you go up kind of sequentially. It can be note by note, it can be phrase by phrase, but more or less it

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goes sequentially upwards.

And then as you do this development, then the range expands. We're not moving a confined range upward, we're expanding the range. So as this progresses, then, we use more and more of the range.

And then there's a resolution point at the upper tonic. And then it can optionally continue above that, which I did a little bit of. And then the range again then starts condensing back down and comes back to the Sa.

And then, depending upon the tradition, the performer may decide then to do another section where it goes into more of a rhythmic presentation. So there's like an internal time going on. And so I did that next.

And then, so what other things did people notice? Are there any comments about, say, density of notes? Yeah, go ahead.

AUDIENCE: Well, not about density of notes, but noticed that you only used a few notes of the scale. I think four or five.

PHIL SCARFF: Yeah, that's true. I used five notes because this raga only has five notes. So, yes, it's a pentatonic raga, so only five notes are there in the raga. So in most ragas, you don't go outside whatever the notes are that are defined as being part of the raga. You don't go outside those.

Occasionally, there are some ragas, exceptions, where you do. But for the most part, you don't. So that's why I stuck to five notes. But you're right about that, good. That's good observation.

So any observations about note density? How it may have varied or developed or evolved? Or, say, frequency of notes. How long did the notes last? Yes.

AUDIENCE: The ones at the top or the bottom of the range were usually longer.

PHIL SCARFF: OK. That's a good observation. When I started out, I was playing much more sustained. When I got up to the high tonic, I also sustained a bit, that's true. And any

other comments? Yes.

AUDIENCE: It was progressive. So you started out with long notes and you progressed and went into faster and more diminutions.

PHIL SCARFF: Yes, that's right. So the notes came faster, at a faster pace. A higher density of notes. It started out with fewer notes, much more contemplative kind of playing. And then as this involved, then the notes came at a more rapid pace gradually. So that's another thing. So note density's another framework.

Oh I forgot to mention. Now, what I wanted to do is, I'm going to talk about each of these frameworks. And I'm going to talk about what is the tradition in Hindustani music, and then also how can we extrapolate the tradition in other ways, maybe changing a parameter here or there to use the same kind of idea, but extrapolate it and make it into something else and then also apply. You can apply the tradition directly or you can apply the extrapolation. Any of those things are possible.

So of course, we talked about the range. That can be applied directly to another improvisation in another style. But we can also make changes to the range. So instead of starting on a low note, we can start on a high note. And we can build the range down. Instead of building the range up, we can build the range down. Or maybe we can start with a very wide range and then condense it down and then focus on a note at the end.

So there's a lot of different possibilities, things you can do with the range. So that's the framework. And then the idea is, you can use the parameters from the tradition, or you can adjust them and make some changes and come up with some new ideas for other improvisations.

So the same with note density. So does anybody have any ideas? What could we do with note density that might make it a little different from what you heard just now? Any ideas about what we could do instead of starting with long notes and then progressing to short notes and faster lines, what are some other things that one could do in a performance? Yes.

AUDIENCE: Keep the same density throughout.

PHIL SCARFF: You could keep the same density throughout. That's right. That's one option. Any other options you can think of? Yeah.

AUDIENCE: You could play backwards.

PHIL SCARFF: You could do it backwards. Exactly. Yeah, exactly. Those are all great ideas. So you could do it backwards. You could start with very fast lines, very rapid notes, very rapid passages, high note density, and then work your way back down to a very slow, longer notes, less dense presentation.

So another thing is, in Hindustani music we have a thing called chalan, which refers to things like characteristic phrases that are used over and over in compositions and in improvisation, a kind of thematic material that comes back. And so that can take the form of actual melodic fragments. Or it can also be rules like, you may not play a certain note in ascent if you played another note before it, and things like this can also be part of the chalan.

So one thing that I was doing, and I'm not sure how apparent this might have been, but some phrases that are common in Hamsadhwani. First of all, many times-- [PLAYS F-SHARP] we start on the third and end on the second. So you heard me play a lot of phrases that would start-- [PLAYS F-SHARP]-- on this pitch and end on [PLAYS E]. So you can do this-- [PLAYS PHRASE] or [PLAYS MORE PHRASES]-- like that.

And then there are some characteristic phrases, also, like this-- [PLAYS PHRASES]. Those two phrases are very common. Even this-- [PLAYS PHRASE]. So those things, you heard those coming back over and over again. How obvious they were, I'm not sure, but that's part of the way we present the music.

So we can take that idea and, in another context, we can take like, say, a small melodic fragment, and use that as like a little theme you keep coming back to in the improvisation. So for example, if you take-- let me turn this off.

You take a tune-- in fact, this happens in compositions quite a bit. So for example, a jazz piece like "Tenor Madness" by Sonny Rollins uses a thematic fragment that keeps coming back. And we can also use that as a basis for improvisation. So I'll play that composition and then play a little improv using that kind of fragment as an idea.

[PLAYS "TENOR MADNESS"]

Something like that. You can take that little, those themes-- [PLAYS THEME] and [PLAYS THEME], which is a variation, and use that in build an improvisation around that. So that's kind of an extrapolation of the use of chalan in Hindustani music.

OK, now, towards the end, did anybody notice anything different about what I did towards the end of my alap presentation?

AUDIENCE: You started moving to a rhythm [INAUDIBLE]

PHIL SCARFF: Yeah, I moved into rhythm and I also started repeating notes. Like-- [PLAYS EXAMPLES]. So that's called jhala. And even in that case, I started with a repetition. The pulse of the repetition, or the rate of repetition, was a little bit slower. And then I built it up. I made it faster, and then I made it quite fast towards the end. So even that, there was a note density kind of progression in that presentation as well.

So for jhala, where we're repeating notes in kind of a rhythmic fashion, does anybody have any ideas about how you might extrapolate? What could you do differently using that kind of concept but changing a parameter or two here or there? Does anybody have any ideas? Yeah.

AUDIENCE: Can you move the notes around, rather than repeat the same note?

PHIL SCARFF: You can move notes around, right. Rather than repeating the same note, you could move notes around. That's a great idea.

And another thought I had was, instead of repeating them in more or less equal length, you could vary the length. Like you could say, play a long note, and then a

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shorter note, and a shorter note, and a shorter-- so you condense down the repetition. So maybe like-- [PLAYS EXAMPLE].

Something like that, which is not typically done. Usually when the jhala starts, it kind of starts at a moderate clip. So that's one idea.

Or you could even slow it down. You can start very fast and come down to slower speed. So some things that can be done with that, too, to change it around.

So then one other one other thing is rhythmic progression. And I think that was already alluded to, but I started out in a very rubato mode, where I was playing not with really any time implied and with longer notes.

And then as the note density increased, after a while I went into a time and started playing lines that were in time, but kind of in a moderate clip. And then after that, I went into the jhala and the jhala built up to a much faster internal speed.

So there was a progression of rhythmic ideas as well, which, again, we can change parameters on that. You can start with a very fast rhythm and move to a slower rhythm or something like that. Or you could be in time and then go out of time-- that kind of thing can be used.

OK, now another thing that is done, another framework, is called bistar. And in bistar, what we do, it's like the beginning of the alap, where we're playing rubato style, but it's done over time. So this would be after the composition is introduced and after the percussion comes in and there's a rhythmic cycle going on at a certain speed. The performer may elect to play in that speed, which would be very obvious, but then you could also go out of time. While the time's going on, you can play out of time on top of that. That's called bistar. I guess I won't try to demonstrate that right now, but that's another idea that can be used.

OK then, there's a technique called gatkari. And the gat means the composition and kari means, like, play. So you play with the composition is basically what it means, literally. So in this case, I haven't played the composition yet. So what I'll do is I'll play for you now just the first line of a simple composition in Hamsadhwani. And this

is in a 16 beat cycle.

[PLAYS MUSIC]

So that's the first line of the composition. So traditionally, what can happen is, you can take a line of the composition, and in that cycle of 16 beats, part of the cycle, you play the composition and then, for part of the cycle, improvise.

So for example, you could play the first eight beats of the composition. And then improvise for eight beats. That adds up to 16. And then you keep repeating that. So it stays aligned with the cycle of the composition. So I'll just demonstrate a little of that right now. [PLAYS EXAMPLE]

So that's an idea that's called gatkari, or a framework.

And now, one thing we could do to change it up-- well, let me ask you. What ideas do you have? What could be done? Can you think of any ideas on how you might change a parameter to make it different? Any thoughts? Yes, go ahead.

AUDIENCE: Rather than coming back to the first half, come back to the second half.

PHIL SCARFF: Yeah, that's right, exactly. You can even come back to different points in the composition. So the first time through the cycle, maybe you improvise on the last eight beats. Then maybe next time you start on beat five. And maybe you go for four beats and then you come back to the composition. So you could do that. You kind of mix it up and improvise, come in and out and improvise in different sections. That would be a way to extrapolate that.

OK, and now there's another framework called layakari. And laya has to do with the rhythm, and again kari is like play. So this is like rhythm play. So in this framework, what is done is, the performer will play different rhythmic patterns or rhythmic combinations. There's more emphasis on rhythm in this particular framework.

So I've given in a handout a few examples. But basically, let's take this 16-beat

cycle. I think it might make sense if we have people clap for this. One second. I'll show you a clapping pattern.

So in this rhythmic cycle, which is called tintal, the typical clapping pattern is pretty simple. It goes like this-- [CLAPS] 1, 2 3, 4, [CLAPS] 5, 6, 7, 8, [UPSIDE-DOWN CLAP] 9, 10, 11, 12, [CLAPS] 13, 14, 15, 16. And [CLAPS] 1.

So we're clapping every four beats. And the third clap is done as a wave, or upside down-- you flip your hand over. So everybody do this with me. Let's see-- I'll just count four beats and we'll start at the beginning of the cycle. One, two, three, four-- [CLAPS] 1, 2, 3, 4, [CLAPS] 5, 6, 7, 8, [CLAPS] 9, 10, 11, 12 [CLAPS] 13, 14, 15, 16. [CLAPS] 2, 3, 4, [CLAPS] 6, 7, 8, [CLAPS] 10, 11, 12, [CLAPS] 14, 15, 16. OK, good.

Now, what I'm going to ask you to do is do that clapping pattern while I play. So keep the time going. So what I'll do is, I'll play a few rhythmic combinations and I'll play some of them slowly, using quarter notes, essentially, just so you can hear more easily how they work. And then I'll play some faster, also, more like eighth notes. So it'll give you a little more sense of how it might be performed. I'll start off with simple ones and make it a little more complicated as I go.

So I'll give you four beats, and I'll probably play the composition once or twice just to get started. But I'll give you four beats and we'll start the clapping, OK? One, two, three, four.

[PLAYS MUSIC WITH STUDENTS CLAPPING]

OK, good. So that's some examples of different ways you can set the rhythm. You can also leave out, in these patterns-- Well, actually, let me play one or two more.

So for example, if you take the one where I did three, three, three, three, and four, altogether it comes out to 16. So I did three, three, three, three, four. So what you can do is, if you leave out the first note in each set, it's like a variation.

So let's do the clapping pattern again. One, two, three, four. [CLAPPING STARTS] First I'll play the whole thing, then I'll leave out the note.

[PLAYING MUSIC]

It's a little hard to line up the clapping with the improvisation there, but that was the idea. And so you can take that thing. Now, does anybody have any ideas for how to extrapolate that. Yes.

AUDIENCE: You could, rather than be in just a 16-beat cycle, go further [INAUDIBLE].

PHIL SCARFF: Yeah, sure, absolutely you could. You could do two cycles. You could do whatever, yeah, that's true. You can make it a longer pattern. I'll say that would be probably considered to be part of the tradition. It's not really exactly an extrapolation outside the tradition. But yes, that's a great idea. So it's something to think about.

This one, I haven't really come up with any brilliant ideas for how to extrapolate this, but I'm sure that in this room there's enough mental capacity to think of some other ways of doing this. So I'll leave that to you to think about.

OK, now a few other examples. There's a technique called tans, or a framework called tans, which are basically fast lines. And there are different ways to build tans. So I'm going to demonstrate a few of those.

So first of all, you can use just a limited number of notes, like, say, three or four notes to construct tans. So then it's like, in a confined range, you're playing sort of a rapid passage. So something like this

[PLAYS EXAMPLE]

Something like that is a confined range. And so what could we do with that? Well, I'm going to kind of move along because we need to switch over to Ravikiran in a couple of minutes. So some ideas there. You could take some tones. Now, notice I used all adjacent tones in the scale. So you could take some non-adjacent tones, maybe. Three non-adjacent tones, maybe with larger intervals in between, and use those instead. Something like that is a way to extrapolate that.

Then we have tans that expand and contract. So let me play an example of that.

[PLAYS EXAMPLE]

So there I started low, I expanded up a little bit above the high tonic, and then came back down again. So expanding, contracting. You can contract, expand, those kind of things.

Some ideas for how to extrapolate that. OK, instead of going in sequence, maybe go out of sequence. So instead of sequentially expanding, maybe you start with a small range, then go to a large range, then maybe a medium range, then an even bigger range, or something like that, so you kind of mix it up. It's an idea for extrapolating that.

Then we have a type of tan which is called a palta tan. Here we take a short melodic fragment and repeat it going up and down the scale, making any necessary adjustments to accommodate the chalan.

So for example, if we take a simple pattern like this-- [PLAYS PATTERN] three notes-- we can make a tan out of that. So I'll just demonstrate how that works.

[PLAYS EXAMPLE]

So something like that. Now, that could be extrapolated by maybe, instead of going up in a scalar fashion, you go up in intervals. Like you go up in some sort of arpeggio. Or maybe, instead of picking adjacent notes, you pick notes that have intervals in between, and then you take that pattern and move it up and down the scale. Things like that can be done to extrapolate.

Then finally, another type of tan, which is frequently used to conclude a segment-- so we've been doing these other types of tans, confined range, expanding-contracting, palta tans, different things like this. We may choose to conclude that segment by just played a straight tan. It goes straight up or straight down, pretty simple. [PLAYS EXAMPLE] Something like that-- or [PLAYS EXAMPLE] to conclude

a segment, that's usually used.

So that's pretty much the end of my part of the presentation. Are there any other questions before we move on to our guest? OK, yes, go ahead.

AUDIENCE: Could you chromaticize what you're doing?

PHIL SCARFF: Yes, absolutely.

AUDIENCE: With ornamentation?

PHIL SCARFF: Oh, yeah. Absolutely, yeah. You can chromaticize it. I mean, this can be applied to anything. So you could do anything chromatically. You could use chord progressions. It can be free form. You can move all around. Yeah, anything can be done to extrapolate. It's really a wide open scenario. Yeah. Yes.

AUDIENCE: What's the instrument that plays the background?

PHIL SCARFF: Oh, this is an electronic tambura, which takes the place of the real tambura, which is a stringed instrument which is used to provide a drone. In Indian classical music, we always have a drone going on while the music is happening.

AUDIENCE: And is it this resonant in the actual tambura?

PHIL SCARFF: Yeah, it is very. Yeah, it is really quite resonant, yes. Yes.

AUDIENCE: This might be slightly off topic, but what are the similarities and differences between chord progressions in jazz versus using a raga in Indian music?

PHIL SCARFF: Right, so the two idioms are very similar in a lot of ways. And so the way I would say you compare a chord progression to Indian music in, let's say, jazz, right? That's what you're talking about.

So in a jazz composition, you'll have a fixed length. Like it might be 32 bars, for example. And it has a particular chord progression that lasts for that 32 bars. And then the cycle begins again, and it keeps on cycling through.

So in Indian classical music, the analogy is you have the tal, which is the rhythmic cycle. And that rhythmic cycle has a specific structure which goes on for whatever number of beats. It may be 16 beats such as tintal, which we got a very slight introduction to today. And that keeps repeating over and over. So the tal becomes the structure.

And the tabla-- in my interpretation here, the tabla, which is the percussion that would perform the tal, is playing specific strokes. So for example in tintal, the strokes go like this. I can verbalize the strokes that would be played on the drum. It goes-- dah, din, din, dah, dah, din, din, dah, dah, tin, tin, tah, tah, din din, dah.

Those are the 16 beats that define tintal. So those strokes work in analogous fashion to a chord progression in jazz, so that it defines where you are in the cycle and when you're coming back to the beginning of the cycle. Any other questions? OK, great, so let's have Ravikiran come up.

PROFESSOR: Thanks, Phil Scarff.

PHIL SCARFF: Yeah, yeah. The pitches are essentially the same. But they're slightly different, because the tuning's not identical. In Indian classical music we don't use even-tempered tuning. So it's sort of related to just tuning, but it's not just tuning, either. It depends on the raga. So there's slight differences in the notes, depending on the raga. But pretty much it's the same 12 chromatic pitches.

So for example, one thing that happens is, the major third is one of the big discrepancies. In the even-tempered system, the major third is, I think, 14 cents above the major third that's used in Indian classical music, which is more of a just major third.

And a similar thing happens to the major seventh because it's related to the fifth. See, the root and the fifth would be justly tuned, as opposed to even tempered. So then the fifth, being justly tuned from the root, is the major third below the seventh. So the seventh also is much flatter-- the natural seventh. All set?

CHITRAVINA Yes, sir. So good afternoon and-- can you all hear me? So I think the introduction

RAVIKIRAN: that Phil gave toward improvisational techniques in the North Indian system, much of it actually holds good in the South Indian system of Carnatic music, as well. Carnatic is probably about 2000, 2500 years old system. The origins can be traced back to the era of the vedas and so forth in India.

But somewhere along the line, probably around the 1300s, India actually developed two distinct classical systems. This was also around the time when there was a lot of Persian guests in the northern part of India. So a lot of imports happened, and a kind of a hybrid culture developed in the northern part of India.

That's why the two systems of music, even today, they have a lot of common concepts, common roots, common ideas, common ideals. But the manner in which they have evolved and developed have varied about 700 years down the line.

So now, the concept of improvisation, if you can just summarize it, it can either be purely melodic, or it could be melo-rhythmic, or it could be purely rhythmic. So that's what it boils down to in most system of music.

And so the example that Phil played of the first period, like the time, cycle bound but there's no rhythm, [INAUDIBLE] like the freestyle improvisation, the pure melodic one, the alapana. He explained to you how beautifully it's organized in a particular manner from the lower notes to the higher notes and from slow speed to the fastest speeds in Hindustani music.

In Carnatic music, in fact some of the discussions about how it can be extrapolated were happening, I noticed that. But in Carnatic music, many of these things are already applied, in the sense that, you don't always start from the lower notes. You have several actual situations where you start from higher notes, or you actually render in faster speeds first and then you just come down and finish with tranquil kind of a feel to it.

Or the other possibility which can also happen is the interspersing of these all the time. So there are times when you just keep interspersing the fast and slow phrases through the improvisation. Now, I'll just give an example of that. Can you hear well

the instrument?

[PLAYS EXAMPLE]

So here you see higher octave, lower octaves fast, slow, everything happening as the musical dynamics keep evolving during the course of the improvisation. This is very typical in many Carnatic ragas, when you do not really start in a slow fashion.

But the slow to fast, low to high also holds good in many cases. Probably about 50-60% of the improvisation that we do in Carnatic music, pure improvisation, we do that same kind of development. But there are exceptions like this, but the exception has a good percentage of about 30-40% in Carnatic. So that's one of the things.

And then if you're looking at pure rhythmic improvisation-- today we are not having any percussion instruments for me to actually demonstrate that part of it, but it's very, very exciting, very involved and very well defined concepts of rhythm. So let's actually go to the melo-rhythmic part of it. Prior to that, I'll also give a parallel of what Phil showed in the jor and the jhala kind of improvisation, where we actually do a similar kind of development in Carnatic also. It's like, there is an element of rhythm, but it's not like cyclic rhythm.

[TUNING INSTRUMENT]

This instrument is the chitravina. Chitravina is like a 20-string slide. As you can all see, the technique of playing this is very simple. I'm sure that all of you can do this in no time. So all we do is just slide this on the thing and we get the notes.

I'll just show this example of non-cyclic rhythm but still some kind of structured improvisation. This is known as tanam in Carnatic music. It's slightly distinct from the tan that you just heard in Hindustani, where it's more composition based. They also have the composition percussion happening in that kind of thing. But here it can be without the percussion also.

[PLAYS EXAMPLE]

Kind of thing. So this is like as you will notice, there is the element of rhythm, but it's not like a tangible rhythm. So this is like a semi-rhythmic kind of improvisation.

And then we have, the composition typically starts. I suppose I should add here that Carnatic music has several times only the composition rendered with no improvisation. So there are times when we only just interpret the composition, because there's a very rich tradition of several kinds of different musical forms, which are represented in a typical Carnatic concert.

It's almost like Western classical in that sphere, except that there's no harmony to the composition, it's all melodic compositions. And there's a lot of lyrics also happening in many of them. So many times, the improvisation could be optional in many of these compositions.

And in certain times when we do, we can have a very short improvisation. For example, it could just be like a few seconds of the pure melodic prelude that I just played. And then we just go into the composition. And then we just move into some improvisation alone or on top of the compositions.

So now I'll just dwell on two types of improvisation that's possible in the melo-rhythmic manner. So once a piece starts, the percussion joins, and so then we get into the cyclic rhythm. Just like you just had this clapping and finger counting happening in Hindustani, we have the similar kind of structure.

But what happens in Carnatic is that you have the percussion not merely keeping time but they also keep improvising on the composition parallel to what we are playing sometimes. So when you actually hear it with the percussion, you can have a very different kind of feel to the thing.

But what I'll do now is just demonstrate a simple tala like a parallel of the tintal that you just heard. This is eight counts, so it's known as Adi tala. So it's [CLAPS] one, two, three, four, [CLAPS] five, six, [CLAPS] seven, eight. So it's like, first a beat, followed by three finger counts starting from the little finger, and then a beat and a wave of the hand, another beat and a wave of the hand.

So you want to try it with me? So [CLAPS] one, two, three, four, [CLAPS] five, six, [CLAPS] seven, eight. [CLAPS] One, two, three, four, [CLAPS] five, six, [CLAPS] seven, eight.

So this is one of the talas. I'll also just demonstrate another simple tala. It's just three counts. [CLAPS] One, [CLAPS] two, three. Just two beats and one wave of the hand. [CLAPS] One, [CLAPS] two, three. [CLAPS] One, [CLAPS] two, three.

So what I'll do is, I'll take a composition in this just for contrast, take a small part of this and just show how the improvisation can happen. One of them is with the lyrics, because a competition has lyrics. So a line from the competition is taken and melodically developed, keeping the rhythm and the lyrics constant. Only the melody is skipped, changing.

It's distinct from a melodic variation in the context that a melodic variation can still have a lot of closeness to the original line. But here, the whole thing can change drastically from the original melody, but you keep coming back to the original refrain of the line that you took for the improvisation. So I'll just take one competition in the style of three counts and just show it to you.

So you all will keep time with me? [CLAPS] One, [CLAPS] two, three. [CLAPS] [CLAPS] three.

[PLAYS EXAMPLE]

So this is the main line.

[SINGS]

So this particular composition is in Sanskrit.

[CONTINUES SINGING]

So this line can be then changed.

[CONTINUES SINGING]

So when I play an instrument, I'll try and vocalize those syllables with the kind of plucking that I do.

[PLAYS]

So I keep going back to that. Then a new round of improvisation can start.

[PLAYS]

So this kind of improvisation keeps happening many times. In a typical concert in Carnatic you would also have a melodic accompaniment, which is, 99 out of 100 times, a violin. The violin in is one of the most common melodic accompanying instruments in Carnatic music. It's also a very often used solo or duo instrument. Since about late 1700s the violin has been an integral part of Carnatic music in India.

So oftentimes when I play, the accompanist will respond to the improvisation in his or her own way and then I continue. So it's almost like a dialogue, an exchange is built up between the main artist and that accompanist during these times. And the percussion, of course, is very dynamic. So they keep having their own fun when this happens.

And then the other kind of improvisation that can be possible in a melo-rhythmic manner in Carnatic is the sol-fa improvisation. Just like the do re me in Western, there are seven notes, fundamentally. They are known as sa, re, ga, ma, pa, dha, ni. Those are the seven names. So many times we use those notes themselves to improvise.

[SINGS]

So you just enunciate those notes fast. In the typical instrument, you can just create

a stroke for every one of the notes.

[PLAYS]

So it can be just melodic. Sometimes you can have a lot of interesting rhythmic patterns just like what you just saw-- maybe descending patterns, ascending patterns of notes, or sometimes even kind of patterns. And I'll just demonstrate some patterns.

[PLAYS]

So one two three one two three one two three one two three one two three one two three one two three-- [SINGS] they're just threes.

[SINGS]

So these are even patterns. But if you notice, the song is actually starting-- it's like a take off after 9 out of 12. That's where this is-- one two three four one two three four five-- [SINGS]. So that's where the take off point is. So each time you ought to be landing kind of clear on that particular after 9.

Whatever improvisation we do, it's like flying an aircraft. You can go all over the place, but unless you land properly, it's going to be, you know, an accident. So you ought to really learn how to land correctly on the song in music in this improvisation.

So some of these landing points could be pretty intricate. And then with the intricate points, you can really build a lot of beautiful, interesting mathematical patterns which can be a lot of fun for the artists themselves and for the listeners as well.

Then I'll just demonstrate some small other patterns.

[SINGS]

So this is like five plus seven plus nine-- kind of an ascending pattern.

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[SINGS]

So again, it's like, the reverse. Like nine, seven, five, kind of thing. So you can have a lot of things. But everything I'm doing still within this kind of framework of only four per beat happening right now.

Sometimes if the composition starts on the beat, then you can even change over from four. You can have fives, or threes, or sevens, or nines, or so many other kinds of pulse rate can be changed. For example, if the same song were to be starting in a different point on the beat--

[SINGS]

That means you're having five per beat there. And then-- one two three four five one two three four five one two three four five one two three one two three one two three one two three one two three one two three one two three four one two three four one two three four.

The tempo has to be still constant, but within that, you keep changing the thing. So in Carnatic music, one of the key things which is distinct from Hindustani music is, in Hindustani music it's legal to accelerate doing the course of the competition. So you start and then the composition itself can be accelerated en masse. But in Carnatic you'd still need to maintain the basic tempo. But within that, you can change the pulse rate and you can show different kind of speeds.

So I think I've covered most of the basic things in this short time. So if you have any questions, please feel free to. Yes.

AUDIENCE: Is that the standard way of playing it? So you always pluck with these two fingers and mute with--

CHITRAVINA RAVIKIRAN: No, I pluck with these two, actually. The first and the second finger. And this I use sometimes to damp. So a note-- [PLAYS NOTE] So I can, if I want more staccato

kind of thing. [PLAYS STACCATO]

AUDIENCE: Can you use your thumb?

CHITRAVINA RAVIKIRAN: Thumb is generally not so much played in actual things. I use the little finger for strumming these drone, or rhythm, strings. Sometimes a thumb is-- actually found thumb really should not be, if your technique is good, you don't really use the thumb.

In the left hand, I use it to grip with these three fingers. And then these two are used to dampen any unnecessary vibration from the other side.

[PLAYS]

So this finger is a very integral part of good slide technique, in my opinion. Because if you don't use this, you'll end up always hearing a sort of monotonous sliding kind of quality to it. [PLAYS] Kind of thing. So if you want a very gripping kind of music, sometimes this is a very useful to employ.

AUDIENCE: Is there any underlying difference between the way ragas are described in Hindustani versus Carnatic music?

CHITRAVINA RAVIKIRAN: Well, the concept of the raga structure as an entity is the same for both, in the sense that both of them have the same kind of approach that it's like a melodic formula of ascending and descending notes in a particular sequence and pattern. And even a small change to the sequence, an addition or edition can make it a different raga.

And that's actually the million dollar question, because in the West, when we think of a major scale, we may think of a lot of variations within that particular sequence, it'll still be within the scale. It will still be major scale. But in Indian music, because it's all melodic development, you don't just think of it as one scale. Even a small change in the sequence make it a different raga.

People actually have asked me about this. A lot of my Western contemporary

musicians have come and asked me, what is the whole rationale of just changing one note and calling it a different raga, or altering the sequence minutely, and how does it change the whole thing? The analogy I can give there, it's like a different shade of the same color. If you look at an Adobe Photoshop or something, you just have so many shades, like a million shades of green.

So the similar way, you can have so many different shades of the major scale. So even altering a note here, if you're a capable musician who is well-versed in melodic development, then you can really create so many different shades of the same thing just with a small tweak in the sequence. And so that no two sequences will be similar, if you are to explore it like that, and take it on that path.

And I'll just give you an example, small example, but a fairly extreme one.

[PLAYS SCALE]

Basic major scale. Now--

[PLAYS]

So here, I only changed the sequence. You still have all the notes in both ascent and descent.

[PLAYS]

So it creates a totally different kind of signature tune to this particular raga.

[PLAYS]

So that's a totally different shade of the same major scale. It can be a very bouncy kind of cheer. It can be a very contained kind of cheer, happiness. It can be an exciting kind of happiness. It can be so many different kinds of moods that you will be able to create with a change in sequence. And that is one part of the raga structure.

The other thing that makes a raga distinct from just a scale or a sequence formula is the kind of oscillations and the ornamentation that are in-built, or embedded within the raga. So in Hindustani music, your typical oscillations like the glide, the mint, as they call it. In Carnatic, you have what is known as the oscillation of a note. And this oscillation is quite distinct from a vibrato or a tremolo or something like that, because sometimes it can be much wider amplitude. Now, the major scale, so I'll just show how the second, fourth, and sixth notes are oscillated.

[PLAYS]

So the second is oscillated between the second and the third.

[SINGS]

[PLAYS]

Even the sixth is oscillated like that. And if you notice, the seventh is given a force which propels it almost to the next note. [PLAYS] So it's almost on the higher tonic note itself. You don't play the seventh flat in this particular raga. [PLAYS]

You rarely play that seventh in a pure manner in Carnatic. You play the third in a pure manner many times, you just have the natural third. But very rarely the seventh will be played just naturally as such. It'll be generally pushed almost with a force.

So the ornamentation is a combination of grace and force in almost every system of music. It can either be grace or force. So the typical ornamentation gives each raga a different kind of flavor. Yes, sir.

AUDIENCE: [INAUDIBLE]

CHITRAVINA   No, see, the technical term in Indian term, Indian parlance, is either nadai or gati.
RAVIKIRAN: Gati is Sanskrit. So it's like, one two three four, one two three four is Chatusram.

Tha ka dhi mi, tha ka dhi mi tha ka dhi mi. All of these have technical syllables and all of that. I'm just trying to demystify most of this for you right now using more simple terms.

Tha ka dhi mi, tha ka dhi mi, tha ka dhi mi, tha ka dhi mi. Tha ki ta, tha ki ta, tha ki ta, tha ki ta. Tha ka tha ki ta, tha ka tha ki ta, tha ka tha ki ta, tha ka tha ki ta. Tha ka dhi mi tha ki ta, tha ka dhi mi tha ki ta, tha ka dhi mi tha ki ta, tha ka dhi mi tha ki ta. Tha ka dhi mi tha ka tha ki ta, tha ka dhi mi tha ka tha ki ta, Tha ka dhi mi tha ka tha ki ta.

So all this is like four, three, seven, five and nine, known as Chaturasram, Thisram, Misram, Khandam, Sankeernam. These are the different kind of pulse rates which are possible. These are the traditional pulse rates that are generally used in Indian music.

Now, you can also use, of course, people are using 11, 13, and other kinds of pulse rates also in certain compositions.

AUDIENCE: That's a gati or nadai.

CHITRAVINA RAVIKIRAN: That's a gati or nadai. In Sanskrit, gati means nadai. Yes.

AUDIENCE: When you're improvising outside of the Carnatic tradition, such as a song like you did yesterday, "Lonely Woman," how do you make your note choices? What sort of thought process is involved in that?

CHITRAVINA RAVIKIRAN: Well, when I play with musicians from other cultures, from diverse cultures, my natural inclination would be to see if it is like fitting into any kind of particular sequence pattern, or what kind of sequence dominates. So I'll almost think of it like another raga.

But many times, I'll identify one particular sequence. Then I'll also know what notes are outside the sequence, so I'll have a fair idea of how the melody is.

So that way, I think Carnatic music-- I mean this as an objective statement not

because I come from the tradition-- but having collaborated with a lot of artists, I think that Carnatic is probably the most complete melodic system. So the kind of grounding that you get melodically when you learn this system makes you versatile enough to collaborate with almost any other kind of culture most of the time.

When I say Carnatic in this particular context, it includes the North Indian also. The raga system of music is very melodically complete. But now, when we played "Lonely Woman," we had almost free style kind of approach to it yesterday. So that one was more easy to do.

But the other composition, the [? domba ?] [INAUDIBLE]. There, at least, there are certain notes which is more like one of the pentatonics. [PLAYS SCALE] Or [PLAYS SCALE] kind of thing, so there. So it was not difficult [INAUDIBLE]. Yes.

AUDIENCE: Could you talk a little bit about the role of dance with Carnatic music.

CHITRAVINA RAVIKIRAN: See, I personally believe that, until almost 1700, dance and music were pretty much close in the south of India. But then by 1700s, or rather, the later part of 1700s, pure music forms started getting more distinctive. And started diverging from dance.

So today the dance repertoire and music repertoire are pretty distinctive, with a couple of overlaps like padams or tillanas and javalis and so forth happening. But there is very, very much of a divergence today. That's why, if you actually look at some composers before Tyagaraja and others who were more in the mid-1700s, people like Oottukkadu Venkata Kavi, a lot of his compositions would be very, very extrapolatable to dance also, because he was much closer to that period when dance, drama-- I mean theater-- and music were pretty much integrated, actually, almost.

AUDIENCE: This is more a philosophical question. When you're a musician and you're practicing ragas and compositions, to what degree can you, maybe over the course of your career, over rehearse to the point where the improvisation sounds rehearsed rather than having that momentary brilliance that is the beauty of Carnatic music. Do you see that as a problem making Carnatic music? That sometimes it's improvisational,

but it's over-rehearsed and not spur of the moment?

CHITRAVINA RAVIKIRAN: I would say that that's not a problem only with any one particular system of music. I think in any system of music, you have to have a fine balance between the necessary amount of practice for command and control, but not to compromise your personal enjoyment or the spontaneity and the freshness of the thing-- for yourself, first.

So even in, say, piano or something, if you really keep practicing mechanically just the fingers, only develop muscle memory, then only your muscles will be playing the music, not your mind. So the passion has to still be kept up. And that's a very difficult thing.

Unless you, yourself, figure it out, it's very difficult to have a formula for that, like a common formula. So each artist has to-- I mean, when I play, if I practice for about five, six hours, or seven hours continuously at a stretch, the moment I start finding things too effortless, I stop.

So there has to be just that 5%, 10% of effort still happening for you to really be in it. If it starts getting too effortless, it's almost mechanical. Then you are not even there. There has to be a certain amount of effortlessness, but probably about 90% effortlessness and 10% effort balance.

AUDIENCE: Going back to the response you had about collaboration, is it at all disorienting that Carnatic verses you so well in melodic structure is it disorienting when that melodic structure is not there, not the point, and in fact the source of structure is harmonic or something else? I'm kind of curious about your statement that it trains you well, because I've seen where disorientation between--

CHITRAVINA RAVIKIRAN: No, see, you have to really understand two things here. The melodic approach in the harmonic approach are distinct and they have their own rationale. each one has its own evolution which has been over a period of time based on aesthetics-- general aesthetics, individual aesthetics common aesthetics, national, regional, cultural, all kinds of aesthetics come into play.

The melodic combinations, from my experience, I have seen that almost any combination of notes played or heard successively can be made to work, over a period of time. But when you start playing simultaneous notes, which is more harmony, when you start getting into polyphonic, vertical arrangement of notes, there are sudden combinations only which can work better than other combinations.

And even that is, you know, so many experiments keep happening all the time. You will take this conventional combinations of the three note chords and then you start doing so many other kinds of things. But again, it takes time for the ears to start getting adjusted to that.

Now, similarly, when you start listening to harmony with a melodic ear, so to speak, or melody with a harmonic ear, then you'll start finding things which are disorienting or which are not resolved. And that's where my whole concept of melharmony came in. That was the rationale when I started melharmony. Actually you guys can do a wiki search on melharmony, which is a concept I started in 2000.

My whole rationale was that people were hearing music with their culture and their type of ears. And then they would actually find-- so suppose somebody from the West was hearing a melodic concept. He may find it pretty uni-dimensional with only one or two melodies happening at the same time with not much of a vertical dimension. And similarly, to a person who was hearing Western music with a raga in mind, there'll be so many notes which are going out of that particular sequence or out of the scale. But that will still be rationally applicable for that particular culture.

So what I started doing is try to create this system of harmony with an emphasis on melodic rules. That's what melharmony is. So that's where I tried to start reconciling that difference, to create that bridge between these two oceans.

But it's a very serious concept. So melharmony has its own separate rules for harmony itself-- very, very rationally explainable, applicable rules. And so I've been collaborating with different orchestras, like, say, BBC, or Sacramento Symphony, and different kinds of orchestras, or with jazz groups. So some of these compositions that I play are melharmonic. So there is that element of vertical thing,

but with the emphasis on structured rules of [INAUDIBLE].

In fact, the Society for Music Theory conference in Boston in 2005-- maybe, I don't know whether you were there in that-- Robert Morris, the Chair of composing from Eastman School of Music, presented a paper on melharmony. So it's a very interesting topic and subject.

PROFESSOR: I think we'll leave it there. Let's give a big round of applause for Ravikiran.

[APPLAUSE]

And for Phil Scarff. Thank you all very much.

CHITRAVINA   Pleasure.
RAVIKIRAN: