

NATS CHAT
John Nix, guest host
Vibrato: There's a Whole Lotta Shakin' Goin' On!

John Nix:

I can't promise answers to everything, but if I can't answer something, I will at least try to refer folks to people who might have an answer. Lacking that, I will say what Barbara Doscher used to say with a smile: "this phenomenon is not well understood!"

Kari Ragan

Hello all! John....save those gems of advise until 7:00 when we get started. :)

John Nix:

Gems, rocks, small rough stones.....

Kari Ragan

A GRAND WELCOME to John Nix. We are honored to have you here with us tonight. John, I know you are presenting at the NATS conference in Orlando this summer (I hope to see many of you there). Tell us about your recent vibrato research?

John Nix:

Sure. In the last year and a half, I have done two projects; one involving surveying people about their training in vibrato and non-vibrato, and one measuring some subjects.

In both cases, the same survey was used. The survey had questions about singing without vibrato and how that related to fatigue.

Sandy Hirsch

Will you be talking about any differences between natural and untrained vibrato?

Carolena Matus

And do you believe that it does relate to fatigue? I ask because I sing jazz without and I haven't experienced any problems, John.

John Nix:

Right. There are lots of folks who sing a variety of styles with and without vibrato, and some experience fatigue, while others do not.

Carolena Matus

Interesting. I was classically trained, so I can go either way, but vibrato is not customary for my genre.

I teach my students control, so that they have a choice.

Sandy Hirsch:

Why is it that when I sing early music I do not have any vibrato, and when I sing Mozart and beyond I do?

John Nix:

What was very interesting is in the survey responses, the overwhelming majority of people said their voice teacher taught them directly or indirectly about singing with vibrato, but that it was their choir directors who taught them non-vibrato.

Sandy Hirsch:

Right – and I never have any vibrato in Jazz either

Craig Tompkins:

Sandy, is that a subconscious decision you make?

Carolena Matus

I wasn't taught either way. I developed control on my own when I switched to jazz.

Natalie Gunn

What were they told about "making" it or "allowing" it?

Jacqueline McCaig

I have had the same experience John, voice teachers vs. choir directors

Barbara de Maio Caprilli

Yes, how do you teach the control?

Craig Tompkins

Many of my HS students, especially guys, want to have vibrato and I can only tell them it will show up when it's ready. Don't "MAKE it happen".

Sandy Hirsch

It's not subconscious or conscious. It may have something to do with the lyric – how I'm conveying the story – or my different genre keys. I'm going to have to start paying closer attention.

John Nix:

OK, trying to keep up...I am not a big fan of making it happen at all; I will bring its presence or absence up to a student to keep them aware; I'd rather teach them the coordination of their voice that allows vibrato to emerge. Re: fatigue – I think a couple of things are at work; it may have to do with the size/weight of a person's voice; it may have to do with their training, and it may have to do with HOW they sing without vibrato.

Craig Tompkins:

I often refer to vibrato as the natural consequence of the vibration of the vocal folds vibrating.

Natalie Gunn:

It seems a lot of choir directors ask for non-vibrato without addressing how to do it safely with breath support.

Sandy Hirsch:

I think that some singers interpret vibrato by pressing the voice which is exhausting, for sure.

Carolena Matus

"HOW they sing without vibrato" ... please clarify, John.

Kari Ragan

John, have you found some specific link to size and weight?

Unknown Chatter:

I have never yet had a student who didn't have vibrato.

John Nix:

Sundberg says there are two ways to sing non-vibrato – to abduct more or to adduct more. When we adduct more, we use the TA to flatten out the extent of the vibrato enough to where it seems "straight."

Unknown Chatter:

How would one abduct more?

forced vibratos always sound forced...no spin

Natalie Gunn

breathier

John Nix:

Sing breathier.

Sandy Hirsch

Flute players have vibrato. It's a fluctuation of the air column.

Unknown Chatter:

Yes, interesting point.

But that would seem to create a tone that would be very unattractive in a choral setting (abducted/breathy, that is).

Patti Blankenship Mortier:

Re Kari's question about the size/weight of the voice, it's been my observation in the studio that larger, heavier voices are less likely to deal with non-vibrato as well as the lighter voices.

Unknown Chatter:

Does the breathier technique not encourage quicker fatigue?

Linda Combellick:

Too tight a support system, or not enough support behind the breath can cause increased tension in the vocal chords, thus effectively cutting off the natural fluctuation of the air column.

Kari Ragan

John, I have a very gifted adult Baroque singer diagnosed with MTD but she's worked with an SLP and myself for some time. Tension is getting eliminated, breath balanced and still not much spin developing. Thoughts?

Sandy Hirsch:

Conscious breathiness can be exhausting and done over time can contribute to bowing.

Jacqueline McCaig

Right, so is the breathiness just a temporary tool to develop more spin?

Patti Blankenship:

I would love to hear the answer to Kari's question, I have a similar student.

Christine O'Meally:

I still remember the older student who came in and said, "Do you want me to sing with vibrato?" and I said, "Show me what you mean by that?" and she sang "Ahhhhh!" with a wildly shaking jaw and I said, "No, don't ever do that again." [:)]

John Nix:

What I have found helpful (and I will talk about this in Orlando) is using exercises that alternate between moving and static patterns – so agility figures mixed up with sustained notes, or florid with sustained, or arpeggiated with sustained. This way, the TA/CT balance is hopefully transferred from the moving stuff to the sustained stuff.

John Nix:

Let's get some clarity about what causes vibrato.

Vibrato is a result of several factors: the balance between the TA and CT; the balance between the intrinsic muscles and air flow; and the neurological system.

There is some research by Titze that vibrato is basically a tremor that we have entrained to a specific rate – due to the delays in the feedback system.

Linda Combellick

Thank you! Intrinsic muscles are what we might refer to as support, or no?

John Nix:

No, the intrinsic muscles that position and lengthen or shorten the vocal folds. When we are extremely low or extremely high – what happens to the vibrato? It goes away, probably because at the very extreme points, we are using basically all TA (low) or all CT (high).

Christine O'Meally

Would those be the same as the tensor muscles, John?

Linda Combellick

Thank you! Then support deals with the air flow and tension against the chords?

David Meyer:

Neurologic component could easily mess up MTD folks' vibrato, no?

Sandy Hirsch:

Definitely, but those are two different issues. Muscle tension disorder.

John Nix:

I would rather keep on the topic of vibrato rather than delving into what support is. Where things are not in some kind of dynamic balance (in terms of the activation of the TA and CT), the vibrato extent (the pitch swing) flattens out. When things are more in balance, we have vibrato.

The research that I have read recently indicates it is not the rate that we change so much as we reduce the extent when we sing without vibrato.

Let's distinguish between the vibratory pattern as seen by a strobe, and vibrato, which is changes in the length and tension of the vocal folds themselves.

David Meyer:

Direct control could be argued – a singer who can sing specific pitches in specific vocal registers (or TA/CT dominance) is controlling those muscles directly

John Nix:

We don't have direct control over the TA and CT – in that I can't say, "I am going to contract my TA now." But, I can decide to sing higher, by contracting my TA and/or CT, and I can decide to sing louder, which would ramp up the TA.

David Meyer:

You rock, btw John. Just thought it needed saying

Natalie Gunn:

I like to conceive of natural, healthy vibrato as a balanced coordination of energies between sub-glottal air pressure and laryngeal participation.

John Nix:

That's a great way to think of it. Brava!

Unknown Chatter:

Do we have direct control over the TA and CT?

Sandy Hirsch:

When you look at the folds videostrobically, is there a difference in vibrato when the focus of vibration is in the anterior one third, versus the entire length of the folds or the posterior portion. In other words does the locus of compression forces make a difference the amount or quality of vibrato?

Not really.

John Nix:

Let's distinguish between the vibratory pattern as seen by a strobe, and vibrato, which is changes in the length and tension of the vocal folds themselves.

Sandy Hirsch

Exactly. It's not like tensing a bicep muscle more.

John Nix:

Yep.

Natie Gunn:

What do you say to teachers who think that vibrato is "around a pitch."

John Nix:

Well, there is variation around an average pitch, but...

Sandy Hirsch

Were you asking me to distinguish between the vibratory cycle seen on the strobe versus the vibrato. I'm interested in hearing more about what you have to say about that. We may be talking at cross purposes.

Ok, Sandy – I will get back to you in a minute. I see what you mean, Natalie. Actual, the pitch swing in most folks is quite a bit less than a whole tone. More like a semitone – 50–100 cents, with 100 cents in a semitone.

Natalie Gunn

I think it's cool that instrumentalists make vibrato to match what happens naturally in our instrument.

I like the cent analogy

Unknown Chatter:

Do you use images in teaching? .. like "zipper the vocal cords together with air" to help students whose cords seems to be too wide apart?

John Nix:

No, I don't.

Craig Tompkins:

If I talk about vibrancy, it's about pitch extent and rate of oscillation – too wide usually and too fast or slow.

John Nix:

With people who have a more breathy sound, I would give them exercises that will over time teach them better coordination of the abductor and adductor muscles – so for instance staccato patterns and messa di voce.

Sandy Hirsch

I find Messe di voce one of the most challenging as well as helpful exercises. You really can't hide behind it AT ALL. Makes it frustrating and exciting at the same time.

Kari Ragan

messa di voce.....yes! Love/hate relationship but invaluable.

Kari Ragan:

What else did you learn in your research, John?

John Nix:

What else did I learn...well, for starters, what we get in feedback from the auditory system and the delay between hearing what we are doing and changing what we are doing in response to it is very cool stuff.

John Nix:

I am a co-investigator on an NIH grant that we just submitted which looks at some of the pitch change reflex stuff (for some reading on it, see articles by Chuck Larson). Yes, messa di voce is a very advanced, but very important skill.

Unkown Chatter:

How common is it for a good singer to never develop a vibrato and why can't some seem to get it?

John Nix:

I think it depends on the needs/wants of the singer. If one's style doesn't demand it, one can be regarded as a good singer without vibrato.

Kari Ragan

That's the case with my singer. She sings a lot of baroque music around Seattle.

Sandy Hirsch:

I have never heard Emma Kirkby use vibrato at all, and she is one of the world's greatest early music sopranos. Judith Nelson, her partner in crime on many recordings, doesn't have much either.

Natalie Gunn:

What do you think of the aesthetic preferences of vibrato through time--think early recordings through Edith Piaf vs. today.

Christine O'Meally

I hear a "shimmer" in Emma Kirkby's voice. I wouldn't say it's without vibrato, I would just say that it's a very light one. But it's not a big voice, either.

John Nix:

I think given a creative teacher and a willing student, almost any issue (so long as the singer is neurologically intact, and has no physical pathologies) can be at least improved upon.

Brian Lee:

<http://youtu.be/iTV6F3ITU7o>

Sandy Hirsch:

Like I said, I never have any vibrato when I sing early music. Might it have something to do with more forward focus in the tone with that genre?

John Nix:

Yes, again, the vibrato is there, but the extent may be so small as to be almost undetected.

Natalie Gunn:

Aesthetics, I think.

Sandy Hirsch:

Really, Brian? Which recording?

Brian Lee:

There is clearly vibrato in Dido's Lament here: <http://youtu.be/iTV6F3ITU7o>

John Nix:

With some of the students we measured here, what perceptually sounds "straight" still has irregularities in it. Even the most "straight" tone has slight pitch fluctuations in it from our heart beat, etc.

Natalie Gunn:

Oh! Once I was so nervous for an audition (with a MAJOR conductor) my heart was beating so fast I literally sounded like Snow White and nothing I did could change it!

John Nix:

I am learning to play the violin, and haven't yet learned vibrato. So it is very interesting to be a singing teacher with an interest in vibrato and a very amateur violinist without any!

Christine O'Meally:

I played a recording of Kirkby's "Laudamus te" (Mozart) for my vocal ped class as an example of what many consider to be a straight tone. All my students heard the presence of vibrato – not extreme, not excessive, but certainly not a straight, vibrato-less tone.

Craig Tompkins:

On a spectrograph, we can see in the upper partials especially that there is regular pitch variation even when the tone sounds "straight".

I hear mostly note bending and incidentals, not vibrato, Brian, although some vibrato very slightly in the ending upper tones. She's a Goddess.

John Nix:

Yep. And if you use VoceVista's vibrato analysis extractor, you can get the rate and extent no matter how small. And some of the Kay software (MDVP) will pull out jitter and shimmer.

Unknown Chatter:

Laudamus Te would definitely bring it out. I'll have to listen to that.

Craig Tompkins:

Early music singers use straight tone and vibrancy as expressive devices far more than singers of later rep. Richard Miller considered bad form if every note was NOT vibrant!

David Meyer:

praat will do jitter & shimmer as well for free

John Nix:

Yes.

Valerie Williams

I hear vibrato in Emma but it is a light voice. Is vibrato more noticeable in larger voices?

Christine O'Meally:

I've heard the term "shimmer," but not "jitter." That seems to have a negative connotation to me.

I think the extent (pitch swing) is probably wider, and that's why we notice it more.

Carlena Matus:

I definitely hear vibrato in that video example, but I also hear delayed vibrato as a stylistic choice.

John Nix:

jitter and shimmer are terms that voice scientists use to describe amplitude modulation and frequency modulation.

Sandy Hirsch

Is there an emotional influence at all on amount of vibrato?

John Nix:

I believe that a trained singer should have the ability to choose to allow vibrato or straighten a tone.

Unknown Chatter:

What kind of exercises help a huge wobble in an aging voice other than the obvious support issues?

Valerie Williams

I prefer the terms shimmer or spiral in my studio since so many singers associate vibrato with wobble...cowardly lion

Christine O'Meally

I had a friend who thought of vibrato as a choice, but the natural voice as being vibrato-free. She has since changed her mind. I have asked students to use straight tone as an ornament, for brief durations.

Craig Tompkins:

I can't remember which is which shimmer refers to pitch extent and jitter to amplitude or the other way?

John Nix:

Shimmer is pitch and jitter is amplitude

Oh, I think emotions have a lot to do with vibrato. We can guess a friend's emotional state just by hearing their voice.

Christine O'Meally

In her book about contemporary vocal techniques, Sharon Mabry says that straight tone should be used only at softer dynamic levels in order to keep the pitch from going flat. I find that to be very helpful.

John Nix:

Shimmer is one of those terms (like resonance) that is used by singers in one fashion, and by scientists in another fashion.

I don't agree with that, Christine. If that were the case, the majority of the singers in the jazz genre would be singing flat.

Sandy Hirsch

Yes, absolutely, John. I'm just thinking that there is a lot more vibrato in the tragic or sad repertoire than in the jaunty repertoire. But now I'm thinking Ariadne and then some Rossini which completely refutes that notion. Never mind

I don't think of jazz singers as being particularly loud, partially because they're usually miked.

Kari Ragan:

John, there was a question about aging voice and wide vibrato. Did you want to respond?

David Meyer:

MT singers certainly need to sing loudly and without vibrato at times

John Nix:

I think – if I can preview my big take-home message for my presentation – is that we as singing teachers need to be able to teach both vibrato and non-vibrato singing; that we can't just do one and leave the other to choral directors or whomever. There are so many styles that expect singers to be able to sing with or without. We do a disservice to our students if we aren't able to help them.

Brian Lee:

By and large jazz singers sing softer than classical by FAR

Christine O'Meally

Also they're usually not that singing that high, which I think is another factor.

Have we talked about exercises to help students a) develop vibrato or b) reduce one that is too slow/fast or wide?

Carolena Matus

We can be! I know a couple who should sing sans mic due to their volume.

Brian Lee:

yup I didn't say "all"

Valerie Williams

Most jazz singers, especially females, sing in a lower register as well.

John Nix:

Yes, we have talked about (a) developing vibrato. I will cover exercises and strategies I use in my workshop at the voice foundation in June and in Orlando in July. I don't think we have time here to go into much detail on them.

I would love to hear answers to Craig's question, how to fix too slow or too fast?

Sandy Hirsch

Part of the fun of singing jazz is that the mic is an extension of your instrument, not just amplification. Kelly Johnson does incredible things with the mic, as does Andy Shaw – really another one of the instruments on stage.

Carolena Matus:

Not if the ear is trained well.

Sandy Hirsch

I agree, Carolena

Carolena Matus

And Craig asked a good question, re: teaching students to sing vibrato. This is something that has never come up in my student as all of my students have had vibrato.

John Nix:

It is very complicated to put a quick answer up about how to fix this or that. Each situation is unique. I am not dodging the question, it's just I don't want to not do a thorough job in answering it. As for aging voices, the research shows that over a 30–40 year singing lifetime, vibrato does slow.

Patti Blankenship

Does it slow due to loss of muscle mass?

John Nix:

This is probably due to slowing down of nerve conduction rates, stiffening of connective tissues, and yes, perhaps some muscle atrophy.

Kari Ragan

Great questions coming in at the end. I'm sorry we are running out of time with John. We will have him back another time.

John Nix:

Well, I am writing an article...I don't advocate "teaching vibrato." I do advocate carefully designing exercises which help your students with whatever issues they may have, and that the proper coordination emerges as coordination improves. But I don't say to a student, "I am going to teach you how to sing with vibrato."

Sorry we ran out of time. There are lots of things that need more research. And first and foremost, I am a singing teacher...interested in helping people sing well.

Christine O'Meally

One of my favorite exercises is do alternative between 1-2-1-2, first on eight notes, then on triplets, then on sixteenths. I've found that to be helpful with finding "shimmer," at least. But it is a BORING vocalize!

John Nix:

Yes, you are working the TA and CT balance that way. Great idea.

Kari Ragan

Teaching with function in mind is the best way to approach teaching!

John Nix:

The science informs my teaching, but it always has to have a practical purpose for me.

Kari Ragan

A big thank you to John for his time and expertise. And goodnight to everyone. Thank you so much for joining us. Hang in with NATS Chat until we resolve a better chat forum.

Brian Lee

Yeah! Let's put the FUN in function! wootwoot

Valerie Williams

Thank you, John; thank you, Kari!

Carolena Matus

Thank you John and Kari for a great discussion! I particularly like what you just said about designing exercises that help with whatever issues a student has. As coordination develops, good things happen!

John Nix

Thank you all. I am exhausted!