

Perfect Pitch Versus Relative Pitch Tutorial (Part 2)

By Jay Graydon

I offer this tutorial gratis for the San Luis Obispo County and LA County schools music departments. Please feel free to share with other schools and anyone you wish.

Introduction

This tutorial about sharing information! Always share information with anyone that would care to receive.

So after writing Part 1, I sent the tutorial to many brilliant musicians. A few people responded in e-mail land stating their techniques, etc. — great stuff! I also talked about the tutorial when speaking with other musicians explaining the concepts — more great stuff! One fellow has *perfect pitch* and plays tenor sax. Kevin Wong's story will be of interest, as you will see. (Kevin's "rap" will be in the "Dean Parks" section.)

The following information would not be easily discovered since such musicians are not typically available for comment.

Note that if e-mail was used regarding correspondence, I will mostly use the text and paraphrase only when needed. Further, I have added some new information along the way.

When writing a tutorial, I do my best to use proper rhetoric for the most part. In most of following, the rhetoric is e-mail text and will include musician slang (but no off-color words). For example: "Cats" are musicians (you know that if a true jazz musician). The term "Yo" started in the studios somewhere in the late 60's or early 70's.

This tutorial will be short and surely worth reading. Here we go.

E-mail correspondence

Dean Parks

There is no doubt you have heard Dean's guitar playing on so many records, films, TV, and commercials. Dean is an incredible guitarist and can play most any style extremely well. The odds are good he now holds the record as the most recorded guitarist ever! Not only is he a guitar master, he is brilliant on so many levels!!!

Dean and I have been good friends for more than thirty years. Shortly after we met, Dean helped me get established as a studio guitarist. Such a kind gesture on his part changed my life!!!

Here is the e-mail correspondence along with new additions as I review and think out.

Dean: Hi Jay!

No attachment arrived with your email.

Jay: Yo Dean,

A slip up working too fast. The file is attached Bro.

I have never asked you if you have *perfect pitch*. Since you are such an amazing musician I assume you have the gift. If not, I bet you have come up with similar methods I noted. In any case, after reading, most curious regarding your thoughts on the subject. I have a feeling you will offer input I should include.

Dean: By the way, [David] Foster's perfect pitch is slipping. He's now +/- a half step, or maybe only one direction wider. Apparently built into the aging process.

Jay: About a year ago Foster mentioned he was occasionally hearing 1/2 step flat. As you noted his gift is slipping further. Very strange! I have never heard of the gift slipping BUT have never spoken with cats older than us on the subject.

I am so curious to why this is happening to Foster. The gift is all about brain wiring and maybe the *Perfect Pitch* gift circuit is shorting out leading to your conclusion of aging. I should look into this and know the perfect person to ask — a doctor I grew up with that has perfect pitch! He is into study and will surely go on the hunt! (Note as of 4-23-04, I will need to include his thoughts at a later date within an update version of this tutorial series).

Check this out! While in Cambria, I play a jazz gig on Thursday nights. I had shared my whistling *home note* technique with the drummer (Darryll Voss) a week ago (the best

drummer in the county and he is also a good mallet player). When Darryll arrived at the gig, he caught my attention whistling his *home note* (*home note* is explained in the first tutorial). I checked my *home note* and he was a step low regarding the note he whistled and named. I reiterated the practice techniques noted in the tutorial as to become accurate.

While the above was happening, the tenor player on the band (Kevin Wong) asked how I knew the correct pitch (he has *perfect pitch* and he knew I don't as noted in the "rap" with Darryll). I then explained the *home note* technique in full.

I then asked Kevin, "Since you have *perfect pitch*, how do you adapt to playing a Bb/Eb instrument."

Are you sitting down? I hope so since the following is truly amazing!!!! I first need to quote from the 1st tutorial.

As I mention in the first tutorial, in the section, "**The perfect pitch gift trade off**", "Perfect pitch" is surely a blessing but a possible nightmare under certain circumstances.

"The *transposition* down side: Transposing while "reading music" in the original key must cause the brain to be confused. I assume transposition must require a brain shift of some sort requiring a thinking step to temporarily shut off *perfect pitch* mode. In any case, this must be a learned technique.

The *concert pitch* downside: The easiest way to explain concert pitch to think piano pitch – piano is a non-transposing instrument using *concert pitch*.

If you are a horn player or any player that plays a transposed instrument and after finding out you have perfect pitch, there must have been some confusion regarding *concert pitch* and a learned technique as to adapt."

Well, the last paragraph was an understatement!!! Kevin is 21 and he is a good sax player. He stated all of his fake books are "C" books so as to read concert pitch. Even though he obviously knows the correct fingerings on his saxes regarding fingerings for the note names on the horns, he can only deal with relating to concert pitch — he thinks of the keys on the sax In concert pitch only!!!

I asked how he reads Bb charts in the college Big Band. Kevin stated he transposes on the fly!!!!!!!!!!!! Most amazing since sax charts can be very difficult to read without transposing!!!

I first thought a useless thinking process that could probably have been fixed at a young age if any of his teachers would have tested him regarding the gift. On the other hand, after talking with George Stone (he has *perfect pitch*), he seems to do basically the same. I will ask George to write out his thoughts in full.

Later, Jay

Dean's e-mail response:

Dean: Me, relative pitch.

I haven't read your piece yet, but I'm assuming "home note" is some sound at the edge of range you can produce at will physically, and you know what that note is.

Jay: Yea, you have figured out the basic concept. There are a few other things of interest so please read when you get a chance. Skip over scales on chords and just read the text.

Dean: I used to do it with voice... comfortable voice note for me is middle C, but it's not dependable.

Jay: You will notice my problem with the voice thing when you read the study.

Dean: HOWEVER, in recent years, when I change strings on a guitar, I'm closer than a quarter step when I tune it up. If hearing some recording, I can tune to an E right in the groove (since the song is in tune, but does not have to be in E or a related key).

Jay: I was not going to continue the study (no Part 2) but you and a few other cats are offering incredible input regarding your techniques. I am sure you do not mind and I will quote you.

Dean: And sometimes I can hear a song and figure out pitch by imagining what a particular note in the song would sound like on guitar. (This is nothing to do with open-string chord shapes, which I only take with a grain of salt due to capos and detunings).

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Jay: Regarding your last sentence, I noted similar information in the tutorial.

Dean: So I'm developing "guitar memory" perfect pitch.

Jay: How long does it take you to find your *guitar memory home note*? As to cheat perfect pitch, the faster the home note is found, the better. I can find mine within a second and then get to work in relative pitch land.

Dean: In college, I was already there in the aptitude test where they tested for relative pitch.

Jay: I would assume so and odd no teacher tested you beforehand. Well, not that odd after you check out the Jim Allen story in the first tutorial.

Just thought of something. When I was in college, when taking the final test in choir, the test consisted of sight singing. I easily nailed it using relative pitch. Even though this was a relative pitch test, the professor did not mention (he should have) but instead was looking for singers that could sight read/sight sing for his advanced groups.

<<Jerry Hey has perfect pitch and plays a Bb instrument, and is old like David Foster! Ask him about it.

Jay: I will do so!!!

Later, Jay

Tim Akers

Tim is an incredible keyboard player in the Nashville area. Tim has recorded/played live with so many major artists over the years and is also a great arranger! He is a good friend and a great guy!

Here is the e-mail correspondence along with some updated information.

Tim: Rake (one of my nicknames)

Really fascinating stuff. I never thought about the whistle thing. The "lowest note singable" thing never worked for me for a reason you didn't mention: my voice is about a minor third lower in the mornings than it is by the time I get to a 10 am session.

Jay: Yo Timbo,

I should have mentioned and will fix when getting down to writing the full study.

Tim: What really grabbed me though, was the "song-remembering" thing. I thought I was the only guy who had ever tried that. It really gave me a chuckle. For the record, the song I use is "shining star" by ew&f. If I just imagine that intro, 99 times out of 100 I will get a solid "E" (the key it is in...) It's funny, but that's the only song (so far) that I've come up with that gives me consistent results. (geez...I just tried it again....SPOT ON.....wow)

Jay: Great!!! Now the key is to think of it is a split second — you want to get to the home note as fast as possible.

Tim: Man...I've ALWAYS envied people with perfect pitch (or the real hardcore version, "absolute pitch"...those are the people who can't sing in an a cappella choir without mentally transposing as they read the choral music.....the one drawback) You remember Gary Lunn? He's got it. and so does Omar (but I guess you knew that). (*Note Omar is Michael Omartian — a genius level piano player/arranger/producer*).

Jay: I know Omar has *perfect pitch* but did not know Gary has the gift. Regarding envy, as per my Jim Allen story in the first tutorial, I obviously feel the same hence the reason I decided to learn a work-around starting at age 14.

I am not quite clear regarding a cappella choir thing. Are you saying they are singing in another key than written? If so, everyone I know that has the gift has that problem.

Anyway....dug the article. MAN are you anal!!! ;-) lol....

Glad you dug it and yea, I am anal. <g>

Later, Rake

Tim's e-mail response:

Jay stated: "I am not quite clear regarding a cappella choir thing. Are you saying they are singing in another key than written? If so, everyone I know that has the gift has that problem."

Tim: What happens in any a cappella choir is this: They will start out with a pitch pipe key reference, but as they sing, they will drift flat! (almost ALWAYS). It drives perfect/absolute pitch people NUTS, because of the "between keys" moments. As they land on say, a half-step down, then perfect pitch folks can sight-transpose, but in between intervals, they must "think sharp" or "think flat" in order to stay in tune with the ensemble, and sometimes must even look away from the music, as they tend to "see a C, sing a C". Wow.....I just can't even relate....the DOWN side of having perfect/absolute pitch.>>

Jay: I now get the drift and I should have thought of the concept before asking since obvious. Yea, choirs drop flat almost always and get between the key. I was once transcribing a SINGERS UNLIMITED vocal arrangement for guitar — the recording eventually fell flat into the pitch crack.

I am getting responses on all of this stuff that is causing me into writing part 2. It will be e-mail from you and the other cats noting your experience!!!! So very cool!!!!!!

Later, Rake

Further e-mail with Tim

Jay: Yo Timbo,

As mentioned, this is going to be another tutorial!!! I love this since the students will see how us pros want the gift and note our ways/problems chasing it!!!

Tim: Interesting...

I had never tried the "highest pitch one can whistle" thing. Since your first email, I've been experimenting with that, and I can't quite get it solid. I can get out a solid "D", but sometimes an "Eb" will sneak out.

Jay: This is common bro. One thing I did not mention in the first tutorial is the whistle needs to be forced to the highest note — overblow to the point of no pitch and then back down to a solid pitch. I assume that the "Eb" that sneaks out is weak sounding in comparison to the "D".

I have considered that some may find a solid whistling *home note* between the pitch, like a 1/4 tone in-between. This could happen with any home note technique. In any case, OUCH!!! So what is the fix for such a situation? I really need to think this through but one idea would be if not an exact 1/4 tone between pitch, if closer to one note, mentally adapt to that note.

Tim Akers: (it is 6:30 a.m. as I write this.....had to get up this morning to take my daughter to the airport, and I have 18 horn charts to write, so what the heck...might as well get to work) So I'm not sure if the early hour has any effect on the pitch. (i.e., are my lips puffy? mouth drier? whatever..)

Jay: Occasionally have found slight +/- pitch problems regarding the whistle pitch stability in the morning surely caused by the physical things you mentioned but very rarely. Most of time, my whistle technique remains solid.

Ironically, if you practice this every day, it seems even if not getting to pitch, your mind starts getting used to the *home note* thinking it before you find your *home note*.

I used to check my *home note* with a tuning fork as soon as I got up. Time to buy a tuning fork and get back on that practice routine.

Tim: All this to say: did you have to spend some time perfecting this, or did you immediately have a consistent note that you could whistle. I've been looking for a failsafe method for YEARS to be able to write charts on a plane or something, without having to carry a pitch pipe. Omar SLAYS me...he writes friggin' charts while watching BASEBALL GAMES!!!

Jay: The first time I experimented with the whistle technique, it was 95% solid and has remained so. Just lucky since as I have been testing cats, it seems at least half have a hard time locking into the solid whistle note. These are early results in the tests and most curious to see how all either lock in the whistle techniques or find others.

Tim: HEY....This gives me an idea: You probably know enough tech-heads to do this. Someone should invent a little pushbutton gadget that will give you a "C" (or whatever) that will hang on your keychain like a car-doorlock remote. You know, just push the button and beeeeeep. A "C", or whatever home note one prefers. Geez....that wouldn't take anything to do. What a great little gadget. Let's find someone to build a little prototype and market it. We'd probably make a couple hundred bucks. Between us! lol...>>

Jay: Yea, a big time business venture. <g> OK, you have sparked an idea. The odds are good there is a toy (key chain friendly) that plays a song. Note the pitch of the first note and when starting the song, if it plays in full. Simply stop after the first note and put it back in your pocket.

Here is a little cheater trick I just discovered. My car alarm arming beep is B. Yea, only useable when getting in or out of the car.

I just came up with another concept for the car or anywhere that has a CD player in reach. How about recording a "C" note into a recorder and burn a CDR — play when needed as to check the *home note* pitch. In the car, this is cake!!!

I thought about doing this with a cassette recorder but rarely accurate since cassette recorders have a sloppy transport tolerance leading to a pitch shift. This needs to be cleared up. What I am saying is that if you record the *home note* on one cassette recorder and playback on another cassette player, the odds are huge the pitch will be slightly different — not a solid pitch reference. On the other hand, how about recording the home note into a hand held cassette recorder and use the same recorder for playback. Yea, kind of silly since in that case, a pitch pipe would be less hassle to carry around.

Check this out. How about people that work in stores, etc. that has an entrance sound trigger. You know, an inferred beam that when broken triggers a bell tone. I would think such a tone could be very handy if thought about before the thing rings for the 1000th time per day. Brain washing in a good way.

Thanks for the input Bro and please let me know how things progress on the hunt for getting as close as possible to emulating *perfect pitch*.

Later, Rake

Rick Lipp

I have known Rick since age 14. We were both serious bowlers and both of us might have attempted making a living as pro bowlers (making a living in professional bowling is most difficult!!!) The good news is we both ended up making a living in the music business.

Rick played keyboards and sang with Mac Davis for many years as well as playing/singing on many TV shows. Rick has worked with many other artists as well.

In our early bowling days, Barry Asher (Professional Bowling Hall of Fame member) nick-named Rick "Troop".

Yo Troop:

I got 2...the mic tutorial and the perfect/relative Pitch. I especially liked the second one. I have had a lot of experience with relative pitch. In college they gave us "ear training", but by then I had that nailed. Also, they used a piano to play a note. On the piano, I could recognize almost every note (unless very high or very low). Odd intervals were also easy for me to recognize.>>

Jay: Yo Troop,

Nice!!! Yea, sometimes I have problems with octave jumps past two octaves — I need to rethink the home note jumping the two or more octaves and can get confused if in a panic to do so quickly.

After more thought, if you can recognize almost all piano notes, you are extremely close to *perfect pitch*! Are there degrees of brain wiring that get very close to completing the brain wiring circuit of *perfect pitch* but leave out a few needed to complete the wiring? It seems so.

Lynnette

Lynnette is Rick's girlfriend and she was a piano major in college. She e-mailed me regarding the tutorial noting something I have never heard of!!! She can always hear an "F" in her head BUT states she does not have *perfect pitch* since she can't hear any note and name it without using *relative pitch*. I mentioned this must be some form of *perfect pitch* since she is always 100% correct regarding hearing the "F". More proof there are surely different degrees of the gift.

Jerry Hey

Jerry is a musical genius!!! Other than being one of the best trumpet players of all time, his arranging ability is outstanding!!! Yea, his ears and his *perfect pitch* is through the roof!!!!

As Dean Parks suggested, I called Jerry to find out if his *perfect pitch* is slipping with age as well as how he deals with playing a Bb instrument. All kinds of things came up that are very interesting. I do not remember the exact wording so I will just state details.

Bb Instrument Transposition:

The first thing I asked Jerry is how he deals with the Bb transposition. Jerry mentioned that when he was tested for perfect pitch at age 16, the teacher played 60 notes (I assume piano notes) with two seconds in between. After the test, Jerry realized that he had learned the names of the notes relating to Bb as concert pitch!!! (A full step off from C concert pitch!!!)

Jerry began to play "C" trumpet as to relate to concert pitch. Jerry said it took time to get comfortable playing Bb trumpet again knowing the pitch was a step off but over time that became 2nd nature. Again, surely a drawback of *perfect pitch*!

Jerry then mentioned that Chuck Findley (an incredible trumpet player) has perfect pitch BUT Chuck only relates to Bb concert pitch so he relates to notes a full step away from C concert pitch. So when Chuck hears a Bb, his brain tells him the note is a C.

Chuck is also a great Trombone player! Trombone notation is C concert pitch. I forgot to ask Jerry how Chuck deals with that when playing trombone. (Yea, I will find out and include in an update.)

Absolute Pitch:

Tim Akers mentioned *absolute pitch*. I thought such a talent did not really exist. The definition of the gift is to be able to hear the exact pitch of a note — not just close but know if the note is perfectly in tune!!! Ouch!!! Jerry has this gift as proven in the next paragraph!!!

Check this out!!! Jerry stated that more than once when playing a recording session he mentioned to Gary Grant (another incredible trumpet player) the piano sounded sharp when hearing the piano player play an "A" (tune up note for the band). True "A" vibrates at 440 cycles per second. Gary had an electronic tuner with him and the "A" was 441!!! Jerry states when he hears true A 440, the sound triggers a brain path wiring that is different in regard to an A note that is not true A 440!!! His gift is truly amazing!!!

Degrees of *Perfect Pitch* through *Absolute Pitch*:

I mentioned that in the 1st tutorial, I had noted I tested Jerry, David Foster and Amin Bottia. He had forgotten the day but we both agreed there are levels of *perfect pitch*. Dig these two stories!!!

Story #1. When Jerry was sixteen, one of the students was a young lady that could state note names flying by meaning like four notes within every second — the notes could be in any register along with extremely difficult intervals!!! She never missed!!! No doubt an extremely high degree of the *perfect pitch* gift!!!

Story #2. Jerry noted he knew a blind music teacher that surely has *absolute pitch*!!! He was a piano tuner as well. Jerry stated that when the blind music teacher was walking down the school hall passing piano practice rooms, if he heard someone playing a piano that was out of tune, he would go into the room, pull out his piano tuning tools and tune WITHOUT USING A PITCHFORK!!!!!!!!!!!!!! Clearly mind boggling!!!!!!!!!!!!!!

Perfect Pitch/Aging:

As Dean Parks mentioned, I should ask Jerry if his *perfect pitch* is slipping caused by aging.

Jerry states, “It is getting rubbery”. I asked what that meant and Jerry stated that if hearing a song based upon synthesizer notes, he may have no idea what key the song is in needing to check pitch on piano or his horn. On the other hand, if the song heard has acoustical instruments, no problem recognizing notes in *perfect pitch* land.

My quick response was some synthesizer waveforms produce strange harmonic overtone structures. Pitch confusion on some level for sure and maybe part of the aging process. This subject needs further thought.

Computer Recording

This is off the subject but I should mention.

We are in the era of hard disk recording. So very cool regarding editing capabilities but also possible technical nightmares from time to time. An example is transferring digital data from one format to another. If the sample rate is different (i.e., 44.1 kHz and 48 kHz), if either is not converted to a common sample rate, the pitch will be flat or sharp when playing back the recorder bounced to. So many other possibilities that would require another tutorial.

Conclusion

I am so glad I opened the can of worms regarding *Perfect Pitch* vs. *Relative Pitch* land!!! The responses from my friends were a huge learning experience for me as well!!! Share this information with anyone you wish.

As mentioned, I may update this tutorial at a later date as time permits.

If you have perfect pitch or relative pitch information you would like to share, please e-mail to www.jaygraydon.com .