



The Buckeye Backcheck

Newsletter of the Columbus Chapter of the Piano Technicians Guild

Volume 33 Issue 2 March 2008

FROM THE HOME OFFICE

The 51st Annual PTG Convention and Technical Institute is in Anaheim California, June 18-22.

Check out

ptg.org/conv/2008

And discover these Hands-On Classes and Skills Sessions:

Basic Principles of Action Regulation • Vertical Regulation and Reality • Equal Beating Historical Temperaments • Tool Sharpening • The Joy of Key-Bushing • Recapping an Upright Bass Bridge • Pedaling from the Ground UP • Tying the Tuner's Knot • Vertical Madness • What's this Tool for Anyway? • Damper Installation Made Easy • The Grand Action: Assessment to Touch Design • Extreme Tuning Levers • Maintaining the High-Use Concert Piano • Voicing Tutoring • Tuning Tutoring • • and more !!

CHAPTER NEWS AND NOTES

The next chapter meeting will be **March 18, 2008, 7:30 at the Chapel at Otterbein College**. Kim Hoessly will be leading a discussion and sharing her wisdom about aural tuning.

Please consult our web site ptgcolumbus.org for a map.

THE COLUMBUS CHAPTER OF THE PIANO TECHNICIAN'S GUILD

President: Chris Altenburg, RPT

Vice President: Bob Grubb, RPT

Treasurer: Ron Kenreich

Secretary: Mike Varrone

Immediate Past President: Mark Ritchie, RPT

CLASSICAL MUSIC IN COLUMBUS

Here are a few coming events:

Fri,Sat,Sun. March 7,8,9

Columbus Symphony

Michael Chertock, piano

Ohio Theater

Sat. March 8

Chamber Music Columbus

Derek Han, piano

Southern Theatre, 8:00pm

Sat. March 15

ProMusica Chamber Orchestra

"Baroque for the Ages"

Pontifical College Josephinum 5:30pm

Sun. March 30

Handbells Columbus

A concert of light classical, hymn, and original arrangements. With guests

G. Randall Gibbs, organ, and Eileen

Huston, piano

Kim Hoessly plays in this group.

Church of the Master, Westerville 3:30pm

Sat, Sun. April 5,6

Columbus Symphony

Mahler: Symphony #2

Ohio Theater

David Stang sings in the Chorus.

NOTE: The First Congregational Church Choir Concert featuring **Ben Wiant** has been postponed until April 27.

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FROM TOM HARR

Note: This article is written in mock-academic style, with a title borrowed from Kant, to disguise the thinness of its content. This is an outline of a work in progress. Contributions and suggestions are welcomed. What particular clues have you found useful or significant in tracking down problems? I have previously written about specific noises that have turned up; what I am aiming for here is a general procedure. Do not expect to find solutions to particular problems, but a method of analysis.

A Prolegomenon of a Schema for the Analysis of Piano Noises

by T.H.Harr

The development, or attempted development, of “expert systems” for problem solving with computers has not yet resulted in any actual artificial intelligence, but has had some interesting results in suggesting how to overcome the impasse of making explicit the sorts of data, signs, indications, clues, hints, and so forth that experienced operatives employ, explicitly or implicitly, in making diagnoses without invoking imponderables such as “judgment”, “experience”, or “intuition”. These things are all very well for the individual expert, but not of much use to anyone else seeking to emulate his or her performance, unless it is possible to particularize them, and state exactly what information is relevant and necessary and how it affects a determination of a given judgment, i.e. what rules of inference are being applied. That said, what I am proposing to do is quite simple.

Some while ago I noticed that I was a lot more successful and more efficient at tracking down those annoying little extraneous noises pianos make along with the sounds they are supposed to make if I was able to figure out what kind of sound it was, and so, what might possibly make it. Just as the ear can be trained first to hear beats, then to judge beat rates ,

then to discern partials , so it can be trained to listen to noises and discriminate among their various sorts. Therefore I have undertaken to systematize my experiences in the hope that this may be of some use to others. Practically speaking, noises constitute a large proportion of customer complaints, “The pedal squeaks.” being equaled or exceeded only by, “The key sticks.”

There are a great many different noises that can come from pianos, but only a few kinds of them.

Recognizing them can be a useful tool in locating and eliminating them. Any given (piano) noise can be classified according to three characteristics: its type or class, its character or timbre, and its frequency or pitch. (Noises also have volume, but this turns out not to be of very much use in identification, except that if very small, the noise is obscure and hard-to-find, and if very large it's pretty damned obvious.) I don't claim this to be absolutely comprehensive, but it covers nearabout all cases except noises peculiar to such classes, as player-pianos, electronic instruments, celestas, and other keyboards, which are of interest only to specialists.

The Three Classes.

- I Impact or percussion noises. A part in motion strikes another which may be at rest or in motion.
- II Friction or rubbing noises. Two parts in contact move or rotate with respect to each other.
- III Harmonic or “sympathetic” noises. A part or parts vibrate due to acoustical energy when a note is sounded. May be a particular note or any note.

The Qualities.

- A. Wooden.
- B. Metallic.
- C. Other. Noises not clearly identifiable as A or B. Usually in Class II.

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All very simple and obvious. But now things get “fuzzier” due to the imprecision of the next characteristic, frequency. Noises don't, by their nature, have specific pitches. A frequency spectrum analysis of a noise might show at best a central frequency about which other components cluster. Therefore I cannot give you any pitch numbers to go by nor will an ETD give you any assistance. But we do in fact assign implicit pitch to noises, therefore I can employ the rich vocabulary of the language regarding noises to rank them in pitch, with respect to each other, and it will be pretty clear where on the “noise spectrum” a given one falls.

Quality A Noises	Quality B Noises	Quality C Noises
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snap	zing	rattle
click	tingle	clatter
clack	ring	
tap	creak	
rap	moan	
knock	groan	
bang		
boom		
thud		

Other

crackle
rustle
rumble

These are clearly inexact and not well-defined, but recognizably distinct and should convey the impression of progressing from relatively higher to relatively lower pitches. No doubt you can think of examples of your own and find appropriate places for them. Whatever the names, what counts is where the noise falls in the spectrum. This is helpful in diagnosing the source and cause of the noise based on the principles that in general the pitch is directly related to the speed of the object and inversely related to its mass. Faster moving objects produce higher pitches; larger and heavier ones, lower pitches.

Analyzing the nature of the noise in terms of these three characteristics may help you form an idea of its source. So, for example, the complaint is, “The pedal squeaks.” You find that it makes a low groan. Are you going to look at the pedal? No, because no part of the pedal or its immediate connections could make such a sound. What large item, moving slowly, indirectly connected to it, could? The floorboard is either loose or split and rubbing.

Spelled out this all seems very trivial and obvious, and so it is if you have been making repairs of noises for ten or twenty years. Your judgment has been shaped by your experiences of associating a particular noise with a particular cause. You no longer even have to deliberately think about the problem; the noise “identifies itself” in your mind.

Absent that experience, how does one figure out where to begin? The alternative to a description of the process of looking for a cause would be a vast, vague “look-up” table listing all known noises and probable causes. (The last time I checked, the “look-up” table for sticking keys was over 120 items.)

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Literary Notes

by T.H.

Musicophilia. by Oliver Sacks.

A new book by the renowned author/physician Oliver Sacks is stimulating reading for anyone interested in the psychology of the perception of music and its pathologies. Dr. Sacks' previous books *Awakenings*, *An Anthropologist From Mars*, and *The Man Who Mistook His Wife For A Hat* have been fairly startling (as the titles may suggest) and eye-opening. This one certainly caused me to have some deeper thoughts about how it is that the wiring between my ear and brain have accommodated themselves to such an abstract artifact as equal temperament, to the extent that is nearly a subconscious reflex. Dr. Sacks has a lot to say about these sorts of phenomena, in large part by recounting what happens when the connections fail or manifest themselves in unexpected or unusual ways. The cases he discusses are fascinating, occasionally humorous, sometimes tragic. I was particularly interested to note a couple of evident gaps in his understanding of piano tuning despite several discussion of the subject with tuners.

In a footnote in Chris Impey's *The Living Cosmos. Our Search for Life In The Universe.* reference is made to, "The classic Fermi question is one he asked his students: how many piano tuners are there in Chicago?" Enrico Fermi being the physicist whose judgment was considered so infallible that he was referred to as "the Pope." I've run into this one before and was never particularly impressed by the reasoning employed as it is based on some what doubtful assumptions. However, if you are curious you can find reference to this anecdote in many works on the history of physics, the Manhattan Project, and the like. (Fermi's conclusion was, "about 100," but his conclusion is not very persuasive.)

More on the Fermi Question

by David Stang

Tom's note above refers to what is known as the Drake Equation, which is an estimate of the number of civilizations in our galaxy. This rests on a series of numbers: How many stars are there, how many planets circle each star, how many planets can support life, on how many of these has intelligent life evolved, and so on. Clearly, these numbers are not known and can only be crudely estimated, so the result varies so much as to have very little meaning. Fermi used the question "How many piano tuners are there in Chicago" as an analogy, employing the following assumptions:

1. There are approximately 2,500,000 households in Chicago.
2. Roughly one household in twenty has a piano that is tuned around once per year.
3. Each tuner can tune 4 pianos a day, five days a week, and 50 weeks a year.

These assumptions are very rough indeed, but at least they are more down-to-earth than the wild estimates that astronomical experts have come up with for the Drake equation.

Doing the math results in 125 piano tuners. According to the 2008 PTG Membership Directory, there are 110 PTG members in the Chicago chapter. Not a bad estimate, then, especially since in physics, an answer within the correct order of magnitude is often good enough!

By the way, here is a slightly different way to look at it:

1. There are 18 million pianos in the U.S., that's just about 1 per 20 people.
2. Let's say on average half of them are tuned once a year, giving 1 tuning per year per 40 people.

If there are on average 2 people per household, my way of estimating yields the same results as Fermi's. That also gives the equivalent of 25 full-time piano tuners in the Columbus area. So if 25 of us are not working full time, it's because we haven't convinced enough piano owners to get their instruments tuned more often!



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www.ptgcolumbus.org

Upcoming Events

Chapter Meeting

Tuesday, March 18, 7:30pm
Otterbein College Chapel
N. Grove St. & Cochran Alley, Westerville
Technical Topic: Aural Tuning Tips, by Kim Hoessly

National Convention and Technical Institute

June 18 - 22
Anaheim, California
www.ptg.org/conv/2008

FOR SALE

This came to Kim through an OSU music faculty member...

My siblings and I are selling the piano from our mother's estate. This was my mother's prized possession and she would want someone to have it that would truly use it. We wondered if there might be a music major or professor who would like to own a real vintage baby grand. This is a 1921 Decker & Son 63" she owned since the 1940's. We had it appraised the other day and our asking price is \$3500. Mom was a music major, played piano and organ for church and schools her whole life. We hate to get rid of this, but no one has the room for it. We also are selling a Hammond Concorde 2307M if interested. Both instruments are located in the Heath/Newark area. Thank you.

Mark Ettenhofer
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This newsletter was created using the open-source program *Scribus* running on the Linux/Ubuntu operating system.

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Comments, articles, and advertising requests may be sent to the editor.
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