Tuning Panel

Curtis Spiel, Doug Wood, Steve Brady

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Notes by Dean Petrich

Opening questions

We could start by brainstorming a list of questions, or we could start by having each panelist describe his personal style and approach. No one had any pressing questions, so we decided to let each panelist describe his individual style, techniques and preferences.

Ginny asked about tuning in an echoey space.

Doug

Doug was in a ballet studio where the acoustics were so bad that the echo would come at the time when you would listen most carefully to the note you were tuning. In Bellevue Square there are three concert grands in the mall, with people walking back and forth, background music, and carts being wheeled by all the way from one end of the mall to the other. Doug brought his solution to this problem: Bose noise-cancelling headphones. They are comfortable for long-period work. This enables him to bang harder on the piano without hurting his ears. Doug does go back at the end and check everything with his ears. There is a switch on the head set to let more ambient in.

Steve

Steve has coupled his noise-cancelling earphones with a pick-up plugged into a small guitar amp. By putting together a pick-up, the earphones and the amp, you have a dead-silent environment. Sometimes you have to move it around, but it creates an acutely focused condition. The amplifier amplifies the signal from the contact into the headphones: mic to amp to earphones. If it's really noisy, wear earmuffs over the earphones. Noise-cancelling headphones also come in handy when driving, since road noise brings the sound up to 80 db.

Curtis

Curtis had a hard time learning tuning. He apprenticed with Steve. He could hear beats fine, but telling the difference between 7, 8, 9 bpm was hard. Curtis still to this day drills himself and practices to keep his skills sharp. For instance, if he is tuning an octave, he'll tune one string with the Acutuner, one aurally, and will then listen on his intervals and try to hear the differences. This difference is much finer than cents, but these tiny differences of listening help discernment. Curtis always takes tuning classes at conventions, he learns from talking to other tuners, and he watches people do elaborate tuning tests. All of Curtis' intervals have to fit under his left hand, in contrast to the hand of Frank Morgan.

Steve

Having tuned since 1972, Steve's tuning observation and philosophy is that it becomes increasingly more difficult to tune over the years because his standards and expectations are increasingly higher. He is now tuning better than he has ever tuned before. There are very few things we can say about any particular technique that can be true every single time. Ever piano brings a different challenge.

Doug

Doug started out tuning for fun and money, just playing around. There were three significant turning points in his personal development.

(1) The first was when his mom asked him to tune all seven pianos in their church. Doing this there was a huge improvement in his ability. After 50 pianos we get better, then after 100, after 500, and after 1000 tunings, we improve. There are days when we tune ten pianos a week.

(2) Another boon for Doug was taking the test. He learned so much from the test that his awareness jumped forward.

(3) The third moment was when Doug went to the Steinway class. Franz Moore said his best tuner was a blind guy who used only three mutes. When you tune aurally with three mutes, you have to be able to triangulate in a temperament to get your bearings. Tune A, the A, then a third one. When you return to your original A, did it move? You can't do this without solid unisons. Doug still tunes with three mutes, and using five mutes for the upper treble.

Doug pulled out three large felt mutes that he uses for grands. For uprights he uses rubber mutes because sometimes the felt mutes slide out. With these mutes he tunes the middle, the left and the right. To make these mutes, get two hammer felt mutes and glue them together. Sometimes the backs of them are lacquered for stiffness.

Doug tuned strictly aurally for fifteen years before converting to an aid. For a pitch raise he would go as fast as he could. When he went through a second time he would find that the treble had gone flat. He found that the tuners who tuned more than ten pianos a week loved their devices, which at the time was an Acutuner. Those who tuned less than ten a week preferred tuning aurally. There were some things that didn't quite come out right with the Acutuner. Then the Cybertuner came out; the shape of the tuning with this device comes out just gorgeous. Although pitch-raising with a Cycbertuner is a bit slower than by ear, it is very accurate. The precision is so high that it is quite unforgiving. If you don't get things solid, it will drive you berserk, because it shows you immediately. Doug tunes from left to right, and listens to unisons as he tunes. If it moves a little bit he can catch it right away. We need to come to the limit of the line between what the ear can hear and the machine can do.

Doug made a pounder that is about 4 lbs, with hammer felt on the end and glove leather in the middle. Another thing that assists in a solid tuning is the Fujan tuning hammer with a longer extension. This hammer is very light weight, but what Doug likes best about it is that there is no flex at all: it is absolutely rigid. Doug made the mistake of getting a titanium hammer, which had way more flex, so much so that it broke. Also, in Doug's tuning kit is a stringing crank with which he can work his way down to the single first, second or third piece. With this you can tune all the way up into the treble with the top down on a grand. Doug owns a 2", 3", and 4" extension on his Fujan hammer, and uses all the combinations.

Steve

On the topic of stability, the hardest thing to learn is how to tune solidly and have it stay where you put it. This is more noticeable than beats. Steve had a student who tuned with wishful thinking. "Better living through denial." When Steve got out of school, he was used to tuning maybe two pianos a day. When he went to a store in Arizona, the manager said that Steve was going to have to bump up to three tunings a day for starters, and then get up to four. Steve started chasing a faster tuning, to see how fast he could go. He probably engaged at wishful thinking and tuned where it sounded pretty good. When he stopped tuning with wishful thinking he started to focus more on unisons and stability. We have to be doggedly, brutally committed to what we are doing. He constructs a mental roadmap of what he is tuning, and then goes back and carefully and honestly checks his unisons. Doing this helps improve stability. We can't wish something to be true: we have to be sure.

Roger did a lot of floor tuning in the late 60's and 70's on horrible consoles and spinets, but this experience certainly brought his speed up. Stability comes with experience.

Doug

We have to be patient, extremely patient, and be brutally honest with ourselves. Some pianos can be a wrestling match, but we have to take on the attitude that "I am going to win the wrestling match." We have to assert our will.

Curtis

Curtis starts with a strip mute. He works on a wide variety of pianos, from spinets to Bluthners and Bosendorfers. He starts by muting the middle and going through chromatically up the center strings, then brings in all the unisons. By doing this quickly with the machine, for each particular piano he has learned the sound, the touch, the pin tension, and how the strings are moving. Then he goes back and starts tuning from the beginning. By quick-tuning the center section he gets to know the piano. The second time through is easy.

At the store he told customer A to tune the piano three more times this year and twice a year after that. A said OK. He told customer B the same thing, and B said "humph". A couple years later he went back to tune both these pianos on the same day. B was a battle to tune because the owner had never tuned it since Curtis' initial visit. Piano A – the piano with the owner who followed Curtis' advice -- was a breeze to tune, and the starting point for A was better than the ending point on B.

Steve

The calculations are better if you tune unisons on the way up. Dean Reyburn has done some research on the string sequence, and found that we achieve the most stability the soonest by tuning unisons from the bass on up. It's actually quite predictable how tunings will settle. Occasionally Steve will strip-mute the whole piano.

Reactivity is when you put your tuning hammer on the pin and the pitch goes way off, simply by putting pressure on the pin without turning it. Some pianos are very reactive. Non-reactive would be where you turn the pin

in the pin-block, and just when you turn it the pitch changes. Negative reactivity would be when you turn the pin and the pitch doesn't change: either the block is very tight or you're tuning the wrong pin. Sometimes the pin might be touching the tuning pin of the pin for the note below.

Especially if the pitch is within 5 cents, strip mute. It doesn't make much difference if you go up or down. This winter has been a tough winter, and many pianos have gone way out of tune. Not only have the tunings gone flat, but the treble unisons are bad. So which string do we pick to tune first? Typically Steve tunes the left string first. We can skew that drop quite a bit. Most of the time, listen to the three strings sounding together with the Cybertuner. This doesn't always work the best, but for this winter, in general, the left string has been closer in pitch and the right string has been flatter. Tuning the left string and then pulling in the low right string ends up with a unison that is a little low. So Steve started measuring right strings for a while.

Doug

Doug routinely writes down the temperature and humidity of each piano. Over ten years, his average readings were 42%. This winter some were 15%. If he is starting to have trouble getting things close, he'll just jump into pitch raise on his device and will run through the piano quickly in pitch-raising mode, since things are moving around. Then he'll go back to tuning. The Steinway tone is quite consistent between 440 and 442, but as you go up it increases, and going down it increases more quickly. If you can get a sense of what pitch works, it helps, but that's a judgement call. Doug tends to discuss tuning to any other pitch with the owner. At the practice rooms at the U, he doesn't float the tunings.

Curtis sometimes thinks, when he is in the top treble, if it sounds pretty good, why destabilize it? Let it be.

Roger tunes the same pianos over and over again. He always keeps his pins at 440. Now with this wet weather his pianos are going sharp.

Doug

Doug has people who call him during cold snaps. Doug asks them to call back next week after the cold snap is gone, and it's amazing that the tuning has gone back to normal. Ride through these unusual days in the winter. Moderate weather is the best time to tune.

Steve

Steve's primary tuning hammer is a carbon fiber shaft encased in titanium, with a BKB tuning tip, at $140 per tip. This tip fits better on pins except for the old Hale, which is no longer made. For verticals he uses a Reyburn impact hammer. Steve even tuned some notes on his Faulk with Reyburn's carbon fiber Golden Hammer. It looks like a titanium shaft. Steve has two tip sizes on separate heads, and will use the appropriate size tip for each pin size. Yamaha's stock pin is close to a #1 tip.

Curtis

Curtis has never extended his extendable hammer. He likes his Schaff hammer on looser pins. When working for Classical Grands, his Schaff would move, so he started using a stiffer hammer. He uses a long tip for going over plate struts. He also used to carry a longer tip for the Schaff. When pins are loose, tell the customer to think of driving a car down the road with a really loose steering handle. Older wood doesn't move as much as new wood, so sometimes older pianos hold their pitch longer.

Doug

Doug's first hammer was an extension hammer. This was not because it can be extended; the reason to use it was that it was the stiffest at the time. Doug also has a thin-wall tip with a tapered extension. Every once in a while there will be a pin against the plate strut or the pressure bar where a normal tip will not fit. This is an extension that fits into a regular hammer. Doug used to switch tips, but now basically he keeps a #2 tip on everything. The smaller the pin, the easier and the more accurately it can be tuned.

When Doug sits at a piano, he starts with his five readings. He'll do a pitch-raise if it's between 8 and 16 cents out. The question is whether it's faster to do a quick pitch raise plus a tuning, or a single careful tuning.

How do you tell if a tuning pin is too loose? The service life of a piano in the Pacific NW is probably twice that of any other region in the country. Doug tuned very carefully a piano that had very loose pins, and when he went back year later to tune it again it held pretty well. If it doesn't even hold during the tuning, it's too far out.

Steve

On a grand, stand over the loose pin, press your hand down on the top of the hammer tip, and work the lever back and forth to the right pitch. Theoretically, you can cut the beat speed in half by each octave. It's best not to drop more than 3 beats per second. Make sure the double octaves sound good. In the high end, Steve likes pure twelfths. He likes a fair amount of stretch. Single octaves can roll a bit up there. Having a beat in the single octave is not a big deal. One piano was a step sharp and the musicians didn't even notice it. During a demonstration, the Steinway guys will tune one note, and then another sequentially, but not together, and everyone agrees on when each note is in tune. Then when the notes are listened to together, they are astoundingly stretched.

Doug

Doug listens for just a little roll on the bottom few notes. This roll seems to make the piano sound richer and bigger than a perfectly clean tuning. Listen on sevenths and tenths. Do I lose the tenth or does it still roll? Is there anything other than sparkle that you need in the top treble? Particularly on stage the more sparkle the better is desirable. Most of the Steinways end up 40%-50% sharp, and sometimes 60% sharp, and they're glorious. For recordings, listen to Murry Peria's Alderberg recital. He plays a Listz rhapsody, and the tuning is stretched a lot, but on this piece it sounds great. There aren't many places in music that have singing legatos in the high treble; they happen lower down. Generally composers don't dwell on the high treble. Some pianos do not want to go more than 30% sharp. One of Doug's clients loves a super-narrow tuning. Doug thought it sounded like a keyboard with the complexity of an acoustic piano.

Dean Reyburn was asked to program a tuning on pure twelfths. Now Doug wants to hear this, because it would make the tuning narrower in the center, and accelerate going up. There are nine tuning styles in the Cybertuner, with 1 being very narrow, and with the other extreme really stretched. A pure twelfth tuning would be sweeter and more subtle in the middle, but the ends turn out the same.

Curtis

When tuning a high quality piano, first you can hear it, and second you can achieve it. When you stretch an old upright so far, it probably doesn't matter. However, the stretch on a grand piano has to be done evenly. With a small piano we have to use our imagination. Frank Morgan was the most patient tuner Curtis had ever heard. Frank could make the illusion of a rich sound even on little spinets.

Steve

When Steve was in Aspen he was tuning with his Cybertuner on 5. The cellist, Devid Pinkle, complimented that he was not stretching like most tuners because it made it easier for him. Most pianos sound good on a 4. With a 4, the octave and fifth have a narrow beat, depending on the inharmonicity of the piano. Steinway pianos like to be stretched. By tuning the Steinway temperament, the treble and bass were pushed a little bit, and the piano was stretched aurally. You can hear the fast beats. On smaller pianos, Steve likes to tune 6:3 octaves because he can hear them all the way down. When a note is hard to hear, then "ghost" the note. This makes the ear more sensitive.

Curtis

Curtis will tune a whole section using 6:3. Then he uses a different interval and goes down chromatically. He would have to change which intervals to choose to make them blend together. When Curtis first started and was working on small and tired pianos, where there was nothing to hear, or very little. To learn to be a better tuner, you have to get to better pianos. Moving to Western Pianos, Curtis got to work on better pianos. There is a point in everyone's career when you just have to do nothing but tuning for a while. Then things start gelling and you do get good at it. At a certain point sometimes we just have to tune by ear. The Acutuner tended to tune the treble sharp and the bass flat.

Doug

Doug had a client with a Mason Hamlin B that he would tune with the setting at 4. This time the owner was unhappy. He went out to look at it. He re-tuned the piano on a 3 setting on it and the tuning sounded so much better. The Steinway M's and L's tend to sound better with a 3 or 4 tuning.