PIANO TECHNICIANS
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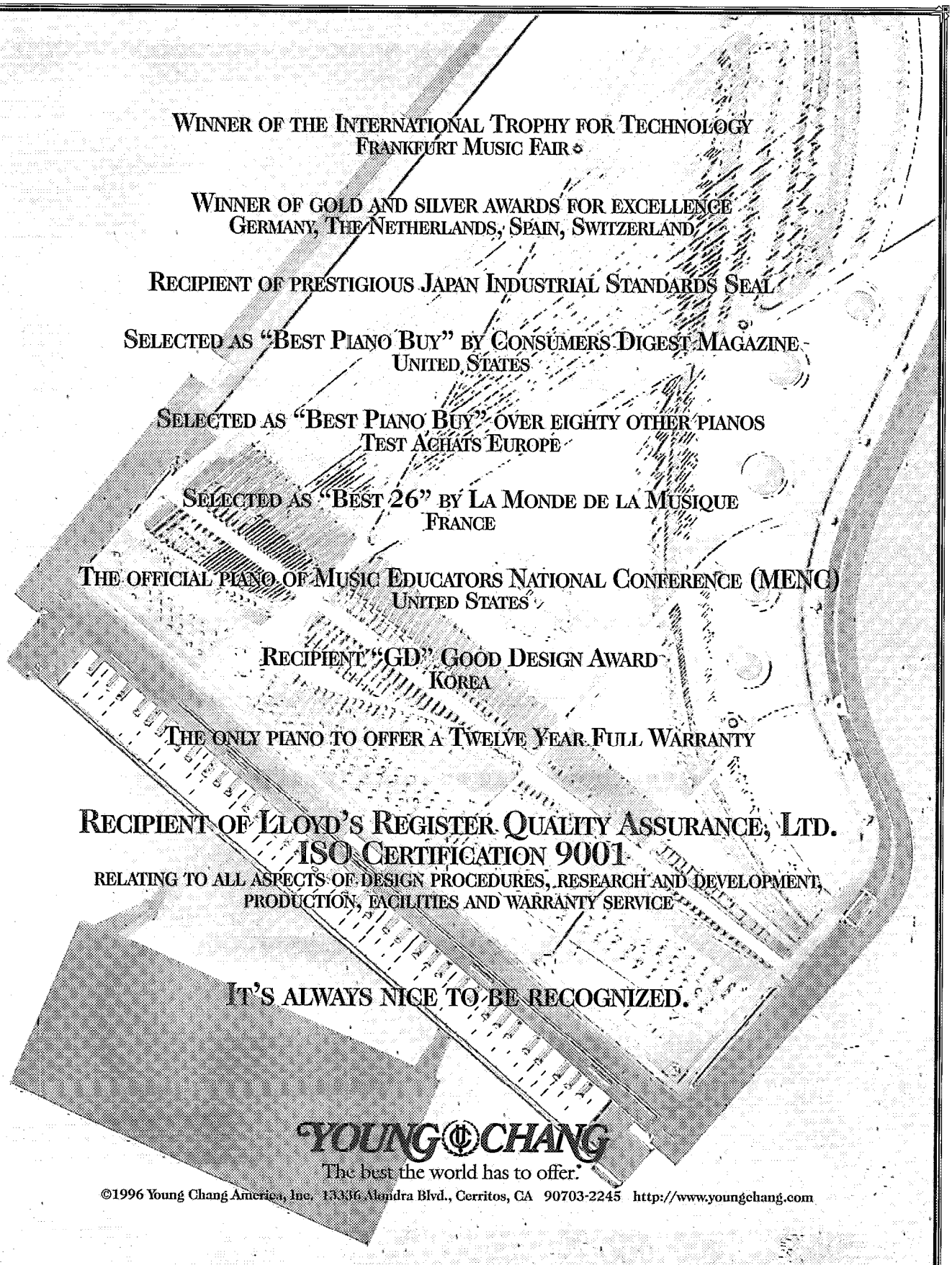

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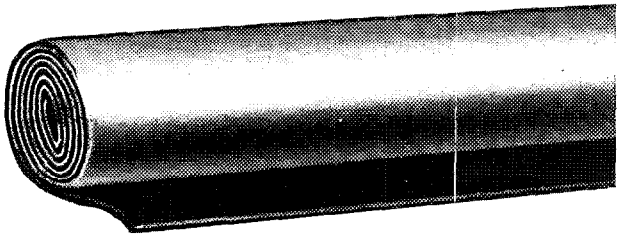

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Editorial Perspective

Full-Service Approach

Steve Brady, RPT
***Journal* Editor**

Two articles in this issue treat different aspects of a topic near and dear to my heart: full-service piano maintenance. Contributing Editor Chris Trivelas holds forth on the philosophical underpinnings of the full-service approach by acknowledging the piano's dual existence as both a precision machine and a protoplasmic blob. Bill Ballard discusses the nuts and bolts of selling this type of work in "Selling the Work We Love." Both of these gentlemen are fine technicians who believe in treating each piano as an individual instrument needing individually customized care — not just tuning — at the time of each visit.

Like fast-food restaurants which sell "package" deals for purposes of convenience and getting people to order more food than they might otherwise, a technician can package services to accomplish the same ends. Don't like fast food? Okay, many of the finest restaurants in Europe practice the same concept with a "prix fixe" menu.

But isn't this crass capitalism, bilking the customer to eke out a few more dollars at each transaction? Some would certainly see it this way. It is a solid business practice which should increase profitability — the motive for all business in the first place. But the value to the consumer lies in convenience; it's much easier to say, "I'll have full-meal number two," instead of, "Uh, let's see, um, I'll have a, uh, yeah, I'll have a quarter-pounder with cheese, and, um, some fries (large or small?), oh, I guess make that a small, and then, uh...." The pricier "prix fixe" menus also save time, as well as embarrassment over pronunciation.

With pianos, the value received by the consumer goes beyond convenience. Sure, it's more convenient to have some non-tuning work done at each appointment than to have the piano out of commission for several days, but the real value is that the pianist gets an instrument which is maintained closer to its potential. This equals greater enjoyment and satisfaction for the player. Things which might otherwise never get done (regulation and voicing) become routine parts of a normal service call.

For the technician, this approach obviously yields more varied, interesting and satisfying work. Beyond that, however, it can simplify the "how" of charging for certain things. Here's a real-world example. When I turned all my calls into full-service calls, I raised my fee enough to cover 20 to 30 minutes of work beyond the time it takes to do an average tuning (this act alone raised my potential daily income by almost a whole tuning fee). I can use that extra time doing any work I think the piano needs — from cleaning the soundboard, to raising a droopy hammer line, to easing a set of keys or fixing a squeaky pedal.

I've watched with interest a recent discussion in these pages on the ethics of broken strings: who is responsible for the cost of repairing strings which break during the course of a tuning? With the full-service approach some might still argue the ethical question, but as a practical matter the issue disappears. When a string breaks, I spend the 10 minutes or so it takes to splice or replace it, then finish my tuning. In many cases, there will still be 10 or 20 minutes left to do some other extra work.

But perhaps the most compelling reason for a technician to practice full-service work is this: the piano sounds and feels noticeably better every time you service it. This imparts a certain "style" to your work which will compare favorably to the work of tuners who, although they may tune well, might neglect the squeaky pedal, the dusty soundboard, or the 3/4" let-off. Someday, in a shrinking market, this difference could be the crucial one which decides who survives as a technician and who doesn't.

February 21-23, 1997
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For information contact:
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At $350, Dr. Trowbridge got quite a deal on his new A.B. Chase Co. E Mahogany. Of course, $350 went further in 1915. RPT Dan Lundell of Alaska, found the original receipt and warranty on this month's cover when he was servicing the piano.

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PIANO TECHNICIANS **Journal**
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Increasing Returns

PTG President
Marshall B. Hawkins, RPT

Why in the world would anyone want to engage in work involving tasks which ended up with the individual doing more than they were paid for? Quite an interesting question, I think, and yet the type of work we piano technicians are involved in is quite often that way. When a person engages themselves in work they love to do, it is not difficult and certainly should not be a hardship to do more work and indeed better work than that for which you are paid. Herein lies the reason a person should do everything possible to find the type of work they like to do best. It is my hope that those who have chosen this field, the field of piano technology, chose it because this is what they really like to do.

While it may be thought that having chosen a field of endeavor you really love will free you from obstacles to be found along the way, generally that is not the way it is. Actually it seems as if when one engages in the type of work enjoyed the most, often that work is not what will be the best paying in the beginning. I believe becoming a piano technician falls into that category.

There are, however, some very definite benefits to be derived from doing what you really love to do. When involved in the type of work you really enjoy and love doing, you find the greatest reward of all, and that is *happiness.* While happiness is priceless, another benefit derived from being involved in work you really enjoy doing is the monetary return. In the beginning your worth may be considered to be less, but if you develop the habit of doing more than you are paid for you will find that averaged over a period of time your monetary return will be greater. The reason for this is that labor performed in love is generally greater in quantity and finer in quality than that which one performs solely for the monetary return. What you are actually doing is applying the *Law of Increasing Returns.*

Many have said that when the Law of Increasing Returns is truly understood, one will have come as close as it is possible to get to a single universal Law of Success. We can see this law of nature at work at any time. Just look at the farmer. After the ground is prepared and the seed is sown, the Law of Increasing Returns takes over. The harvest yield is greater than that which was sown. Otherwise there would be no advantage to be gained by sowing a field of grain if the yield did not return more than was sown.

With this tip from nature, we should learn a lot about the Law of Increasing Returns, and in turn learn how to apply this law to the service we render. When we establish a reputation as being a person who always renders more service than that for which you are paid, you will surely benefit! When compared to those around who do not give such service, the contrast will become noticeable. In fact, it will become so noticeable that there will be competition for your services as soon as you gain recognition as a person who does more than the minimum required. When the habit of performing more service than that for which you are paid is well-formed, you will become so adept in your work that you can then command greater remuneration than those who do not perform such service.

To these ends I challenge those with long experience to reach out to those striving to reach the minimum standards required for RPT and help them learn how to apply the Law of Increasing Returns as you apply that very law in the act of helping them. For those on the primary advancement track, be not ashamed to ask for assistance as you apply energy to one of nature's unvarying laws: that struggle and resistance inevitably develop strength. The purpose for which is to show you how to harness this law and use it to aid you in your personal struggle for success.

The way the continuum works best is when those higher on the ladder of success constantly reach down to help those just beneath them to make that next step forward. It really works! The observance of this principle brings a twofold reward. First, it brings the reward of greater material gain than that enjoyed by those who do not observe it. Second, it brings that reward of happiness and satisfaction which comes only to those who render such services.

Enjoy this month's *Journal....*

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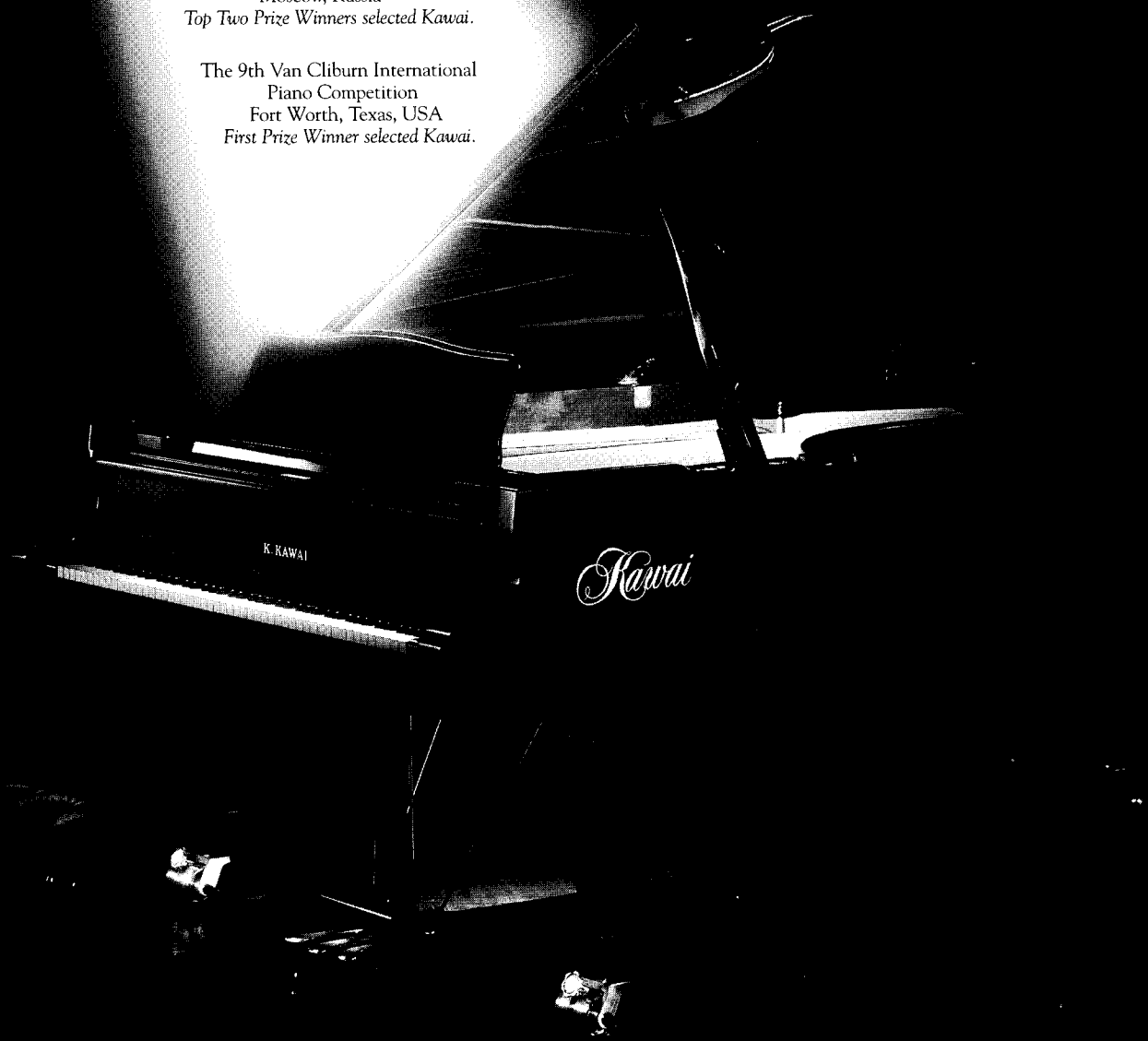
The 2nd Hamamatsu
International Piano Competition
Hamamatsu, Japan
First Prize Winner selected Kawai.

The 10th International
Tchaikovsky Competition
Moscow, Russia
Top Two Prize Winners selected Kawai.

The 9th Van Cliburn International
Piano Competition
Fort Worth, Texas, USA
First Prize Winner selected Kawai.



It's becoming a familiar refrain.

The Saga Continues...

In response to Del Fandrich's letter (August 96), I agree that the question of how and why pianos go out of tune is an exceedingly complex one, involving many diverse factors interacting simultaneously. However, I stand by my opinion that there is a simple answer to two questions: 1) why the lowest five to 10 plain wire unisons on treble bridges consistently and progressively change pitch (in response to humidity) more than the notes immediately above them (the lowest plain wire unison changing pitch the most); and 2) why neighboring plain and wrapped unisons change pitch differently — the plain wire changing more.

This simple answer lies in tension expressed as a percent of breaking point (percent of elastic limit would do as well). Other factors being equal (yes, I know they aren't, but I think they are similar enough), a similar change in deflection (caused by rise or fall of bridges) will cause a lesser pitch change in wires that are closer to their breaking points, and a larger pitch change in wires that are farther from their breaking points. This is backed by standard formulas which show that, length and diameter remaining constant, pitch varies as the square of tension. Thus a string that has reached a point close to its breaking point will require a much larger tension change to produce a given pitch change than will a string that is far from its breaking point.

To answer some of the points Del brought up:

1) Yes, the treble bridge flexes and twists along its length. I don't believe this explains the discrepancy between neighboring plain and wrapped strings (I hope this is obvious), and I find it hard to believe that the very bottom ends of treble bridges consistently flex, twist, elongate, or otherwise distort in such a way as to account for the degree of pitch change that occurs consistently in this area.

2) I agree that I erred in comparing pitch change at the bottom of the treble bridge with pitch change on the bass bridge. The factors that affect movement of the two bridges are diverse enough that considerable experimental data would be needed to determine the effect of any one factor.

3) The actual string tensions of neighboring plain and wrapped strings are not the important factor — rather it is how close those tensions are to breaking point. Whether wrapped strings have tensions higher, lower, or equal to neighboring plain strings, invariably they will be closer to their breaking points.

4) It may be true that similar movement of the bridge can't be predicted to create similar changes in tension in all wires crossing it. However, I think the changes in tension are similar enough for the short section of bridge that I am referring to.

All this might be clearer if I give concrete examples of the two phenomena I am referring to. First let me refer you to a graph in the August *PTJ*: page 24, Graph 3. It charts the tension expressed as percent of breaking point of notes 20 to 50 of a Mason & Hamlin A grand. Notice that the breaking point percentages are stable around 45 percent from notes 50 through 35, then drop rapidly, reaching 30 percent by note 27. Note 26, a wrapped string on the treble bridge, has a breaking point percentage that jumps to about 53 percent. This pattern is common to all pianos as a general rule: the lowest plain wire unisons have a rapidly declining tension as percentage of breaking point, and any wrapped wire unison on the treble bridge has a considerably higher tension expressed as percentage of breaking point.

Yesterday I tuned a Baldwin 6000 concert vertical, a Steinway B grand, and a Yamaha P202 studio, which had experienced humidity rises of about 40 percent since their last tunings. The 6000 has three plain wire unisons on the top of the bass bridge. These were about 20 cents sharp, while the wrapped strings immediately below them were about 10 cents sharp. The P202 has two wrapped unisons at the bottom of the treble bridge. These measured about 10 cents sharp, while the plain strings immediately above them measured about 25 cents sharp. These are typical numbers, in my experience, and I don't recall ever running across a case where wrapped wires changed pitch as much as, or more than, neighboring plain wires on the same bridge, at least in response to humidity change.

Moving on to the second phenomenon, the lowest plain wire unison on the Steinway B (F2) was about 15 cents sharp, while F3, an octave higher, was about 5 cents sharp. The intervening notes formed a fairly consistent curve between those values. On the Baldwin 6000, the lowest plain wire unison on the treble bridge (F3) was about 30 cents sharp, while F4,, an octave higher, was about 15 cents sharp. The intervening notes were again fairly consistent in falling between those values. This is a pattern that I find consistently on most pianos, though there are enough exceptions to make me wonder. The middle to high treble, on the other hand, is not at all consistent, except among pianos of a particular model. The high treble of the 6000 was in the 40 cents sharp range, while in the Steinway B, the high treble was fairly consistently flat, for example.

To return to the question of how much a given movement of a bridge will affect the pitches of the strings that cross it, I have done a little experimental work to obtain some empirical data. As I described my plans in my last letter (printed in the October 1996 *PTJ*, I am writing this in August, 1996), I removed the bridge pins from three unisons of a 30-year-old Hamilton (Baldwin model 243 studio): D#3, the lowest plain wire unison; D3, a wrapped unison on the treble bridge; and A3, a plain wire unison higher on the bridge, chosen as the highest unison convenient to get at with hands and tools. I then placed round stock of various diameters between the bridge and the strings, measuring the resulting pitches. The accompanying chart shows the results:

	.016"	.061"	.109"
D3	0.0	7.5	16.7
D#3	0.0	12.1	32.5
A3	0.0	9.8	21.5

(This turned out to be a somewhat problematic experiment.) I had planned to measure pitch first with the wires crossing the bare bridge, then again after placing two pieces of each dimension between the strings and the bridge, lined up over the middle of the bridge pin holes. I thought this would come closest to what actually happens when a bridge rises.

Unfortunately, this proved unworkable. I was unable to

Continued on Page 10

Continued from Page 8

get reliable, clean pitch readings in this manner on any of the three instruments I tried, due to the fact that front bearing was less than or equal to rear bearing. Readings were unreliable both on the bare bridge and with two pieces of round stock (center pins and bridge pins) in place. I had to press down on the front bearing point to get readings, and wasn't sure the pressure wasn't influencing the pitch. I decided it would be more accurate to dispense with two bearing points, and instead place one piece of round stock on the bridge where it was solid — I chose right behind the front bridge pin holes. I used .016" harpsichord wire for an initial reading, as it was the smallest wire which gave good termination, then a .061" center pin, then a .109" bridge pin. I repeated the steps at least three times to be sure I was getting consistent readings.

If anyone is interested in repeating this experiment, I would point out that accurate placement of the wire/pins is critical to obtaining consistent results. A very small movement fore or aft will change the readings quite a bit. I tried for as much consistency as my eyesight would allow. I make no absolute claim for the reliability of my figures within more than a cent or two, but I think they are suggestive enough even at that level of accuracy.

Obviously the lowest plain wire unison, D#3, changed pitch considerably more than its neighboring wrapped unison, and also more than a plain wire unison higher on the bridge. These results are very much in line with my hypothesis, and also support my recalculation of Darrell Fandrich's prediction, presented in my last letter. He had predicted that a one-half inch (.50") rise would be needed to raise pitch 20 cents. My recalculation showed him to be in error by a factor of ten. My experimental measurements show that a bridge rise of about .050" (one-tenth of .50") produces a pitch rise of about 10 cents. Not precise, but at least in the ballpark.

I hope that others will pick up on this "thread" (as those of us who are "on-line" call it), and do a little measuring and calculating. After all, pitch change caused by humidity change is what most of us deal with most of our working lives. It would be nice to know more about how it happens and why, if only to give us something to think about while we lower pitch in August and raise it again in January. Actually there are more practical applications, particularly on the lines of developing good pitch raising and lowering procedures. If we know what areas are likely to change pitch the most, we might choose to go over those areas once before tuning the whole piano, for instance.

The first step is to collect data in a consistent way on a fairly large sample of instruments. I still haven't decided how to organize this. I am leaning toward reading every fourth unison on the treble bridge, and noting left, right and center strings separately. I don't want to make the procedure too cumbersome, but I also don't want to miss valuable data. One of the strange phenomena I have puzzled over for a few years is that on several models of grands and uprights there seems to be a pattern that a rise in humidity results in the right string of a unison rising in pitch considerably more than the center or right string, this being consistent for a fairly large area of the high treble. Gathering data to back up this observation would require reading a lot of strings, and distinguishing between left, right and middle.

I guess I'll just plunge in and see where things lead, but I would appreciate any help or suggestions that might come my way. e-mail: fssturm@aol.com, 315 Nara Visa Rd NW, Albuquerque, NM 87107.

— Fred S. Sturm, RPT
Albuquerque, NM

Clarification

In Bill Clayton's letter on page 14 of the August issue, please note that the fourth line of the last paragraph, which reads, "...factor being the difference in pitch change between" should actually read, "...factor being the difference in string length. However, the note-to-note difference in pitch change between..."

We apologize for any inconvenience this error might have caused.

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TT&T "Voicing" Vertical Dampers

For quite some time I have used a method for vertical dampers that I call "damper voicing." I'm sure everyone else out there uses it also, but I've never heard it mentioned.

One day I was fighting a damper that refused to work even after the rules were followed. I realized then that there was no point in bending wires ... kind of like trying to reuse a gasket. It seemed that I would work and work to get the lift and timing right but alignment on an old felt and trying to bend a wire in those small of increments was inefficient. More often than not, I would mess something up trying to get this precise of an alignment. The real problem is felt seating. I have seen countless people (myself included) go bending wires only to make it worse, trying to seat old felt with grooves in it.

I usually do the damper voicing in the piano by simply pulling back the damper lever and rubbing the emery across the felt until the grooves are gone, straightening it and then letting it go back. When that doesn't work, I either remove the damper lever or head or cut the felt off and sand the wood smooth. Then I glue it in and the glue seats the pad. The very last resort is, of course, installing a new felt but that is rarely needed since this method usually solves the real problem.

I need to caution though, that this method will not work when the other rules are not followed. Correct damper lift, evenness, spoons, and especially the damper pushing against (or "following") the string are all mandatory.

— Ron Shiflet, RPT

TT&T Weldbond® Glue

I have had good success with Weldbond®. I guess I've heard that some think it isn't as strong as Titebond®, but Weldbond® has some properties that make it a permanent fixture in my tool case.

Weldbond® has some of the properties of contact cement. You can apply it to the parts to be glued, and let them sit until the glue is tacky. The parts can then be put together, and the glue will grab immediately and yet the parts can still be repositioned. Weldbond® is the way to reglue a sharp that has come off a key.

Because it grabs so fast, Weldbond® can be used where clamping is difficult. I use it for difficult action part repairs where others might use CA glue.

I have used it to reglue a broken key. For me, clamping a broken key always results in a key with a shape that is different from the original one. I use Weldbond® and work the parts together by hand while sitting the key on a flat surface to insure that the key ends up flat along its underside. Do the repair as soon as you find that it is necessary, and by the time you have tuned the rest of the piano, you can put the broken key back into the piano and tune that note.

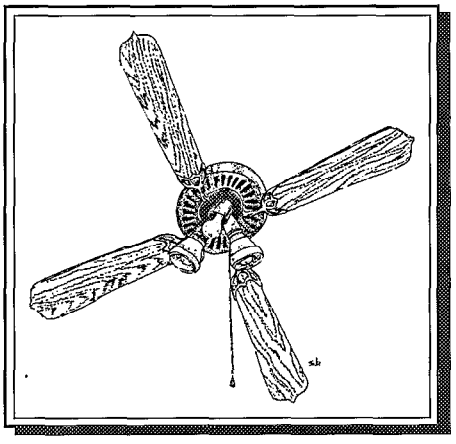
We all know that when the felt comes off a hammer molding that the hammer is ruined and needs replacement. That said, I have used Weldbond® to glue hammer felt back on to its molding. (Must be clamped.)

We also all know that a broken hammer shank should be replaced. However, I have glued hammer shanks back together that had broken off right at the hammers, without clamps, then tuned the rest of the piano, and then, having waited until the last possible moment, tuned the notes that had had the broken hammers. I've done it several times, as a matter of fact. Wouldn't have believed it if I hadn't done it myself. Try it if you are in a situation where you can't replace the shank.

— Kent Swafford, RPT

TT&T Close Encounters of the Salad Master Kind

I knew something was wrong as soon as I started in on the tuning of this 5-year-old Yamaha U1, and I could already feel condolences for its owners. The tone in the third and fourth octaves was anemic — washed out. Worse yet, a subtle flutter was showing up in the middle partials (3d through 7th) on notes in this region, maybe one or two partials per note. The partial number affected changed from note to note, and this flutter was independent of the tunings usual beat rates. Was this the reason I was called in on a piano not badly out of tune? I listened around the room for other sources of pitch which might be interfering with the piano sound. The loudest electrical appliance was the ceiling fan which whispered innocently.



I could still tune and so I did, until halfway through when I decided to shut off the fan, just on a hunch, mind you. Like magic, the sound turned from a cold drizzle to warm sunshine. This was one for Dr. Science, my neighbor, who is a black belt, 12-star radio engineer with a labor rate for servicing the region's electronic facilities twice my own. He's never forgotten a word he's read, and his hearing is so acute that on a visit to NYC American Museum of Natural Science's gem room, he complained to the guard that the ultrasonic security system was giving him a headache.

Yes, Ira knew. Sound transmitted by or received from moving objects produces a Doppler effect in which frequency or phase is modulated. For all practical purposes, I the listener was stationary, as was the plane in which the turning fan blades moved. However the blades themselves were at-

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tached to the hub with a slight pitch so as to push air. Consequently, sound from the piano was faced with a constantly changing distance to the blades which would reflect them. Had the fan been unnecessarily fancy, the blades might have had a curved rather than flat cross section, which would have made the Doppler modulation non-linear. Regardless, the phase modulations were a product of the distance from the piano to the blades (fluctuating periodically within a fixed range), the motor's rpm, and the number of blades (these latter constant). All that was left was for these factors to combine in consonance with some partial on the note currently played. And I had noticed that as I moved from note to note the flutter would roost on a different partial (or partials). Shut off the fan and my headache was gone.

— Bill Ballard, RPT

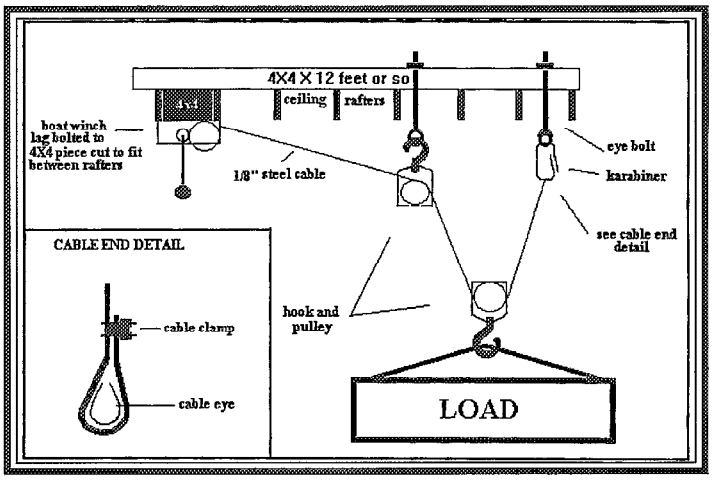
TT&T

My Shop Hoist

A lot of people have talked about various different types of hoists, but I don't recall seeing anyone mention a boat winch. This is a crank-operated winch found on many boat trailers, dry docks, and the like. Various load capabilities were available when I got mine, and I outfitted my shop with this setup to take the load off my back, which is sometimes not very strong.

Total cost I believe was around $70 for everything. Weakest load rating for any piece of the setup is 1200 pounds. I have the winch attached to a piece of 4x4 that spans about 6 trusses. Through the 4x4 I have a 3/8" diameter stock eye bolt and a large fender washer (and a nut of course) to keep the eye bolt from pulling through the beam. The beam distributes the load over enough trusses that it doesn't stress the roof line too bad. I stand on a small stool about 1 foot off the floor and operate the winch with one hand and guide the plate with the other. The usage of dowels to guide the plate up and down sounds like a great idea. I've used duct tape and masking tape depending which one was closer to reach, to protect those areas that were prone to have the plate touch. (Don't leave the tape on there overnight, it is a mess to remove.)

The winch is purchased without cable. The cable I chose was conservatively rated at 1500 lbs and so about 3/16" in diameter or so. The length was determined by how far I wanted to reach. This can vary depending on the mechanical advantage you want. From the winch, the cable goes out to a pulley and hook assembly. This hook is hooked on to the eye bolt described above. The cable then goes through another pulley and hook assembly that is used to attach to the moving strap I've passed through the plate in three locations. The cable then goes back up to the eye bolt where at the end of the cable I've got a forged hook attached. I've got numerous eye bolts located around the shop to facilitate whatever anchor point I need. I've also got an extra pulley and hook assembly in the cable line to enable any additional routing of the cable or any additional mechanical advantage.



This set up has served me well from lifting plates in and out gently and very carefully, to moving crated pianos into position for uncrating. I've lifted a 9' Baldwin grand on a skid to put a dolly under it, and I've lifted numerous pianos for attaching the third leg. I've used it to lift and hold one end of a player piano (upright) while I worked on the spacing blocks that hold the back casters. All this while my wife watches and is glad that I'm not going to be walking around with my body slightly bent at the waist and unable to put on my socks the next day. This device, with it's low price, has been a very welcomed addition to my shop.

— Larry Fisher, RPT

Q: How to Charge for Out-of-Town Work?

I'm curious to know what sort of rates are being charged dealers for service outside the normal service area. I'll be traveling three hours one way, and doing about two hours of service, then the return trip. So basically all day, no breaks, and no guarantees. Any suggestions??

I was thinking of charging two standard tuning fees to get there:

A. because it's out of my active service territory and I had nothing to do with the sale

B. because it takes about an hour and a half to do one tuning including travel time.

Then I was thinking of charging the dealer the usual discount rate I charge all dealers, and because most dealer calls take about an hour, not including driving time, I would charge this amount twice for two hours. Then the same two basic tuning fees to get back home.

How's my logic line up with the rest of you out there in the real world??

— Larry Fisher RPT

A: Jim DeRocher, RPT

Good question. My rates for a tuning take into consideration that I drive about 30 minutes and spend about 90 minutes mucking about on the piano and admiring the pictures of the lady's kids, and giving her gratuitous lectures on piano care. So there goes two hours out of my day. If you are a three pianos per day tuner and you are going to devote all day to this particular project, then by all means charge the dealer triple. If you are a four piano a day tuner, then charge him four times! Your duty is to make a day's pay, not only to support yourself and your family, but to support our local, state and federal governments which need your money if they are to continue to perform the exemplary tasks which have so endeared themselves to our hearts. Oh, oh, starting to get political. That's what I get for watching the Sunday talk shows. Coming down with Sam Donaldson-itis.

A: Charles Ball, RPT

I have given this question some thought, and the solution that I have reached is as follows:

1. When I do business travel by plane or that entails an overnight stay, I charge a per diem.

2. When I travel out of town on business by car, I charge slightly higher than my in-town hourly rate, calculated from the time I leave the city limits, until the time I return, less time for meals or personal business.

This seems the clearest and fairest way. So if you charge $50 per hour, and the trip takes 8 hours, you would charge $400. I also offer a percentage discount to dealers.

Have a nice trip!

Q: Installing New Grand Dampers & Wires

I am about to install a set of dampers with new wires on a grand piano. The only time I replaced wires before this, I used the old wire bends to get started with the new wires and went from there, but the existing wires on this piano have been so abused I can't really use them as samples.

Is there a *Journal* article someone can point me to, or your own method you can share with me as to how to determine the initial bends and install the felt? Are the bends established with no felt on the head and then the felt glued in place? Thanks for any input.

— Jeff Stickney, RPT
University of Montana

A: Jim Coleman Sr., RPT

I am assuming that you are installing new heads also. If the new wires are already swaged into the head, that's good. The insertion process usually involves either glue or varnish to seal and secure.

The length of the first bend from the head determines how far the damper head is offset to the right or left of the guide hole. The reverse bend insures that the damper wire portion which passes through the guide hole is parallel to the sides of the damper head. The next bend determines the amount of offset from the guide hole to the center of the damper upper lever. This bend should be about one inch below the guide rail. This bend will usually graduate through the tenor section. The next bend which is about one inch above the top of the damper upper lever is made to make the wire parallel with the upper lever wire hole.

It is best to glue on the damper felts to heads first. Be sure that you run a pencil line along the side of the trichord felts before you chop them apart, so that if one side of the trichord is slightly thicker than the other, you will have the marked side glued on the same for both front and back damper felts. This greatly simplifies the final alignment.

Once you have the wires in the ball park, you can cut them to proper length so that they don't bottom out in the upper levers (top flanges) and so that they will be at least 1/4" below the set screw when the damper lever is at the proper height and the felt is resting on the strings.

There are five primary things to consider in damper regulation which involves bending:

Walk — Controlled by upper bend one inch below guide rail. The wire above this bend must be perpendicular to keybed. Any change here will require an opposite change in the lower bend one inch above the upper lever.

Twist — Twist wire above lever after screw is set so that neither front nor back felt twists as it rises.

Rock — Lift/rock damper forward or back till both felts seat and come off the strings at the same time.

Offset — Increase/decrease length of first short bend to

center dampers over strings. There is a simple way to do this in the piano.

Lift — Set and reset screws lightly till all dampers lift at once. Set one or two in each section by a gauge which is one half the hammer blow distance. If you have used new lever board felt, you should be able to set the rest to lift at the same time. Then tighten screws and repeat above items as needed.

All of the above may make them look good, but they still have to work. Harmonic analysis of the result of staccato key blows will help determine touchup needs as far as thick and thin sides of trichords are concerned. There are many specialty tools which make this job run easier. These are just the basics.

Q: All About Lead

What causes the lead in keys to corrode? Why do some key leads corrode and others do not? What, chemically/physically, is ***really*** happening here?

Why is it that some pianos only 20-plus years old have corroded/expanded key lead while much older pianos have original key leads with virtually no lead corrosion evident?

Is there a variation in the quality/purity of lead? Is there a chemical reaction occurring between the lead and the "treated" wood in some key sticks? Is it an oxidation process that is occurring as a result of a particular atmospheric environment? Or, is it a by-product of the lead alloy that allows the corrosion to occur?

What is the best and safest approach/method to correct non-functioning keys because the lead is so "puffy?" Could one "seal" key lead to inhibit the oxidation process?

I run across this symptom periodically in various levels of severity. I suspect we will be seeing much more of this in the years to come. Can anyone shed some light on this baffling (at least to me) subject?

— John Piesik
San Diego Chapter PTG

A: Bill Simon

I am new to the list, but let me jump in here because I have worked with lead, and alloys of lead, in several different disciplines.

Pure lead is very inert; dump it in water and 10 years later it is essentially the same, only the slightest sulfide coating — generally. Hey, that's why they used it in plumbing since the days of the Roman empire.

Alloy the lead with other metals, like antimony, tin, bismuth, etc., and you have a solid battery (dissimilar metals with different potentials) that will erode itself to Swiss cheese in a few weeks in water. Humidity will also affect this alloy by eventually causing a white lead oxide.

A test: pure lead is very soft — even a dull knife can cut off a shiny chip easily. If the lead is alloyed, the hardness increases considerably, a knife will chip off a crumbly piece, and the surface will be gray, not mirror shiny. Here are some answers to your specific questions about lead, and my thoughts on health concerns:

Why do some key leads corrode and others do not?

I suspect that some action makers used about the cheapest lead weights they could get, which were probably old contaminated linotype slugs from printing plants. (5 percent tin, 13 percent antimony, rest lead, with copper as a contaminant. They alloyed for hardness to make type print longer.)

Is there a chemical reaction occurring between the lead and the "treated" wood in some key sticks?

I doubt it, unless the keys were wet.

Is it an oxidation process that is occurring as a result of a particular atmospheric environment?

Possibly a little, but not with pure lead weights. Recrystalization of impurities in key leads to a different and less dense state can account for the "swelling" noticed frequently. Pure lead is very dense and impermeable to air. Alloyed lead is "open" grained, and after years of internal oxidation and kinetic molecular motion can change structure and swell.

What is the best and safest approach/method to correct non-functioning keys because the lead is so "puffy?"

Shave the excess off with a sharp chisel, being careful not to eat the shavings.

Could one "seal" key leads to inhibit the oxidation process?

Sure, a swipe of paint or varnish should do it. I used to sandblast the oxidized key leads (because I had a sandblaster setup) — and then put a spot of varnish on them. You can just varnish the oxidized leads with a thin mixture that penetrates the oxidation and then hardens up — trapping the evil oxides in place.

Health Concerns

Lead oxide, white lead, etc. — is "poisonous," but it ain't plutonium. As I mentioned above, I have worked with lead at various times and thought I would add some rational comments to the irrational discussion and fear of lead in any form.

Here they are:

According to the EPA, one adult died in the U.S. in the last three years due to lead poisoning. He was a bullet caster who worked in his basement, which had a coating of lead dust everywhere and he always ate sandwiches in the shop without washing up first, according to his daughter. He did this for 10 years.

Children and lead-based paint: children take up lead oxides at a far higher rate than adults. Their physiology is different. Ever wonder why they would go around eating lead-based paints? They taste sweet (try it — then spit!). Actually, wealthy Romans for a time actually flavored some foods with lead oxides for the sweet taste, and of course never caught on, so they went out!

White lead oxides should not be eaten, or breathed, etc., but the oxide isn't very soluble in water. There are other compounds of lead — especially a yellow oxide that is formed at higher temperatures — that are very soluble, and extremely dangerous to breathe.

Lead is a darned useful product used for more than just balancing tires. Don't stay awake nights worrying about it.

Optimized Aural/Electronic Tuning

By Leon J. Vieland, Ph.D.

The development of a set of instructions for electronic tuning ordinarily proceeds from a knowledge of the inharmonicity constants. Given this information, and an idea of what the important intervals should sound like, it is possible to construct a temperament that leads to the right mix of beats, octave stretch, etc. It then follows, again from the inharmonicity, that the frequency of all the partials which are convenient to tune is known, and the problem is solved[1]. There is, however, no unique, general solution to be achieved, for example, by putting in perfect 2:1 octaves or perfectly rising thirds because as one interval is brought into compliance with the model of perfect temperament other intervals are compromised.

The question of how best to take advantage of the unique ability to enter the frequency of a note directly, instead of by reference (beats) to a previously tuned note, has been central to the development of electronic methods. One such optimized employment of the electronic tuner is realized in the procedure given here, which combines aural and electronic tuning in such a way as to eliminate the need for consideration of both inharmonicity and beats, and gives a reliable three-octave temperament for all pianos, independent of scaling problems.

The General Idea

The octaves A2-A3 and A3-A4 are tuned aurally for clean sound, without charts or calculation, and without regard to preconceived notions of stretch, save that the 2:1 octaves are — almost — invariably on the wide side. (A4-A5 is tuned similarly, or as given below). This guarantees a temperament outline in accord with general tuning practice. The scale is then filled in by direct interpolation of some suitable partial on the electronic tuner, between end points fixed by the (already) tuned octaves. This guarantees a smoothness of progression and ease of setting of the temperament superior to that attainable by ordinary aural tuning chain procedures. The simplicity of this procedure is such that once the octaves are set, no judgment is required on the part of the tuner.[2]

The remainder of the tuning is done by established, conventional techniques, mentioned briefly below. However, the discussion will focus on the span A2-A5. The procedure is as follows:

The Procedure

The notation A4(A5) indicates A4 as the note being struck, (A5) as the tuner setting (second partial). It is convenient to tune from the top down, as given here, but the order is immaterial; once any adjacent pair of A's are set, the octave can be filled in.

(1) Tune A4 to 440 Hz, or some other desired frequency..

(2) Look at the cents deviation of the second partial of A4, A4(A5). Increment this value by some small (less than 1 cent) amount such that the total is conveniently divisible by twelve; for example, if A4(A5) is 2.1 cents, add 0.3 cents, and tune A5(A5) to 2.4 cents. The octave A4 to A5 is then tuned directly (first partial), changing the cents value by 0.2 per semitone. Thus, tuning down from the upper note, start at G#5(G#5) =2.2 cents, etc.

(3) a. Set A3 to A4 aurally. Check to see that the 2:1 octave is wide by setting the ET at A4(A4) and then striking A3. A slight flatness of A3(A4) should be observed, not exceeding .5 BPS (2 cents @ A4).

b. Reset the ET at A4(A5), and look at A3(A4), which will be a few cents negative. Again, adjust this value to be divisible by twelve (by further slight widening), and then tune down by second partials, from G#4(G#5) to G#3(G#4), changing the fine setting by this amount for each step.

(4) a. Repeat step (3)a for the next lower octave.

b. Repeat step (3)b, striking notes one octave lower, but for the same ET range, i.e., tune by fourth partials from G#3(G#5) to G#2(G#4).

What It Does

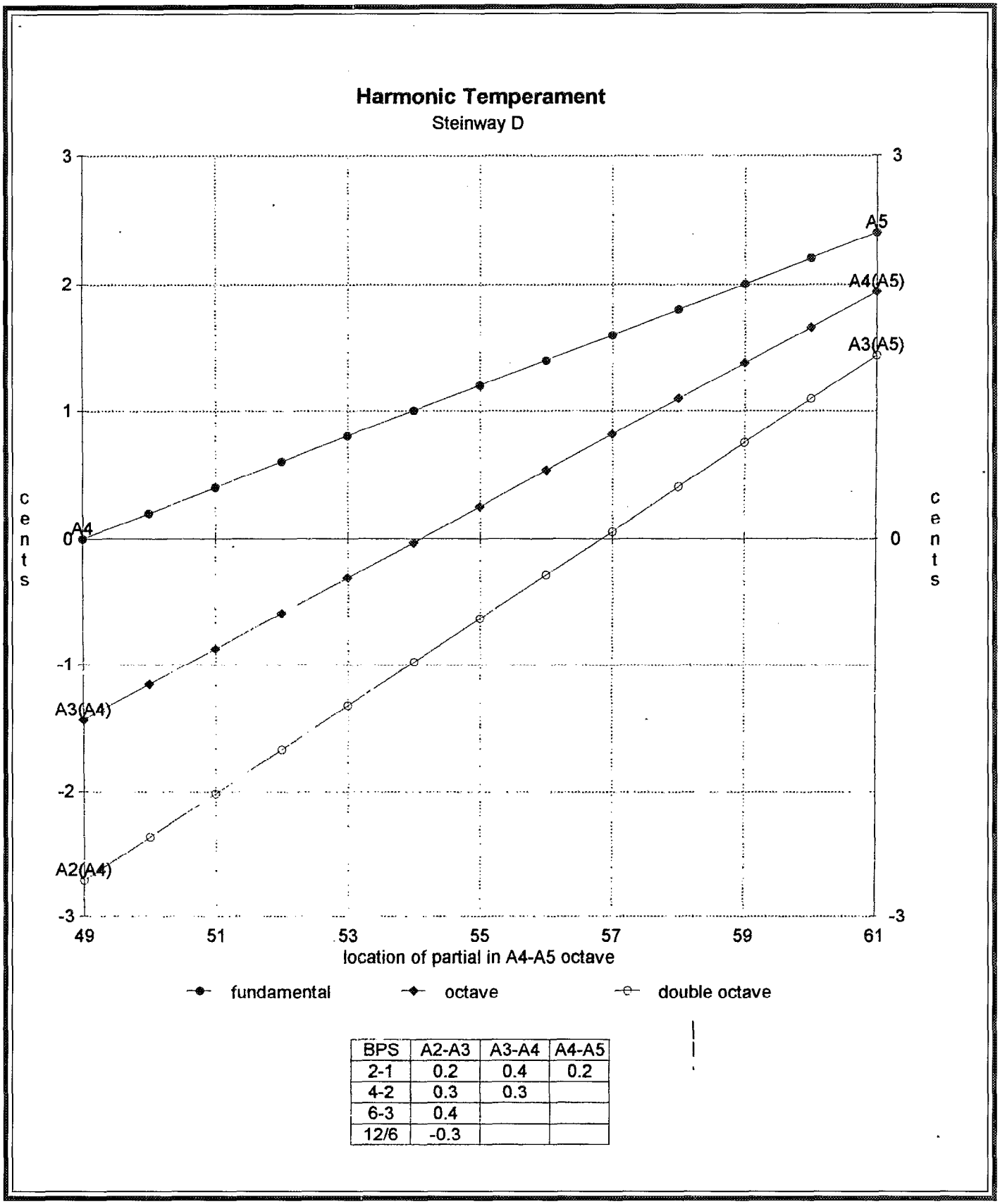
As a practical matter, there is no substitute for applying the procedure at any piano and comparing the results to some more conventional method of tuning. For purposes of understanding, however, it is necessary to use " paper tunings" with pianos of known inharmonicities, so that the tuning can be converted to the familiar terms of temperament and beats. The A octaves are put in consistent with experience, and everything else follows by calculation.

Before showing some typical cases in these terms, some results are presented in an unconventional way which speaks directly to the essence of the procedure. An example is given in Figure 1 which shows the tuning of an elegantly scaled concert grand.[3]

What is plotted here is the cents deviation from perfect temperament of the first, second, and fourth partials of the notes of the top, middle, and bottom octaves, respectively. This is sort of a folded temperament; that is, the usual — three octave — temperament is represented by the appropriate partials appearing in the frequency range of the A4-A5 octave. Thus the name "Harmonic Temperament." Additionally, a table of beat rates is given to show the octave tunings in more familiar terms.

The top curve (step 2 of the procedure) shows the temperament (fundamentals) of all the notes in the A4-A5 octave. Had we chosen a beatless 2:1 octave, the point marked A5 would coincide with A4(A5), and the line would run from there down to 0 (A4=440 Hz). In any case, this line represents a precise temperament, with the octave divided into twelve exactly equal semitones.

The next step places the point A3(A4) — partial down slightly from 440 Hz — and thus fixes the middle curve. The vertical distance between the first and second curves is just the width in cents of all the 2:1 octaves in the span A3 to A5. Had we tuned the end points without any octave expansion, then the curves would coincide, and all the 2:1 octaves would be beatless. [This, in a way, would be a fulfillment of the dream of generations of tuners—a perfectly apportioned temperament octave, and a perfectly tuned adjacent octave.] In any case, the very slight widening of the 2:1 octaves proceeds linearly from the end points of the line. Notice that, given these end points, which of course are piano specific, no mention has been made of inharmonicity! If we replaced a string in one of these octaves with another of grossly incorrect diameter (and



BPS	A2-A3	A3-A4	A4-A5
2-1	0.2	0.4	0.2
4-2	0.3	0.3	
6-3	0.4		
12/6	-0.3		

Figure1—Three-octave temperament for a Steinway D, plotted as the deviation in cents of the selected partial of the note from its value for perfect temperament. The distance between the curves is the width in cents of the octaves as follows : top to middle, 2:1; top to bottom, 4:1; middle to bottom, 4:2. The table gives the corresponding beat rates for some important octave harmonics.

therefore inharmonicity) these curves would be unaffected. The top curve would remain the same because it is a true temperament (first partial) curve, and the middle curve because we are ignoring the temperament in this region, and tuning the second partials.

Similar remarks apply to the bottom octave. The point at A3(A5) is already determined since A3 has been tuned. After A2 is tuned, a line joining

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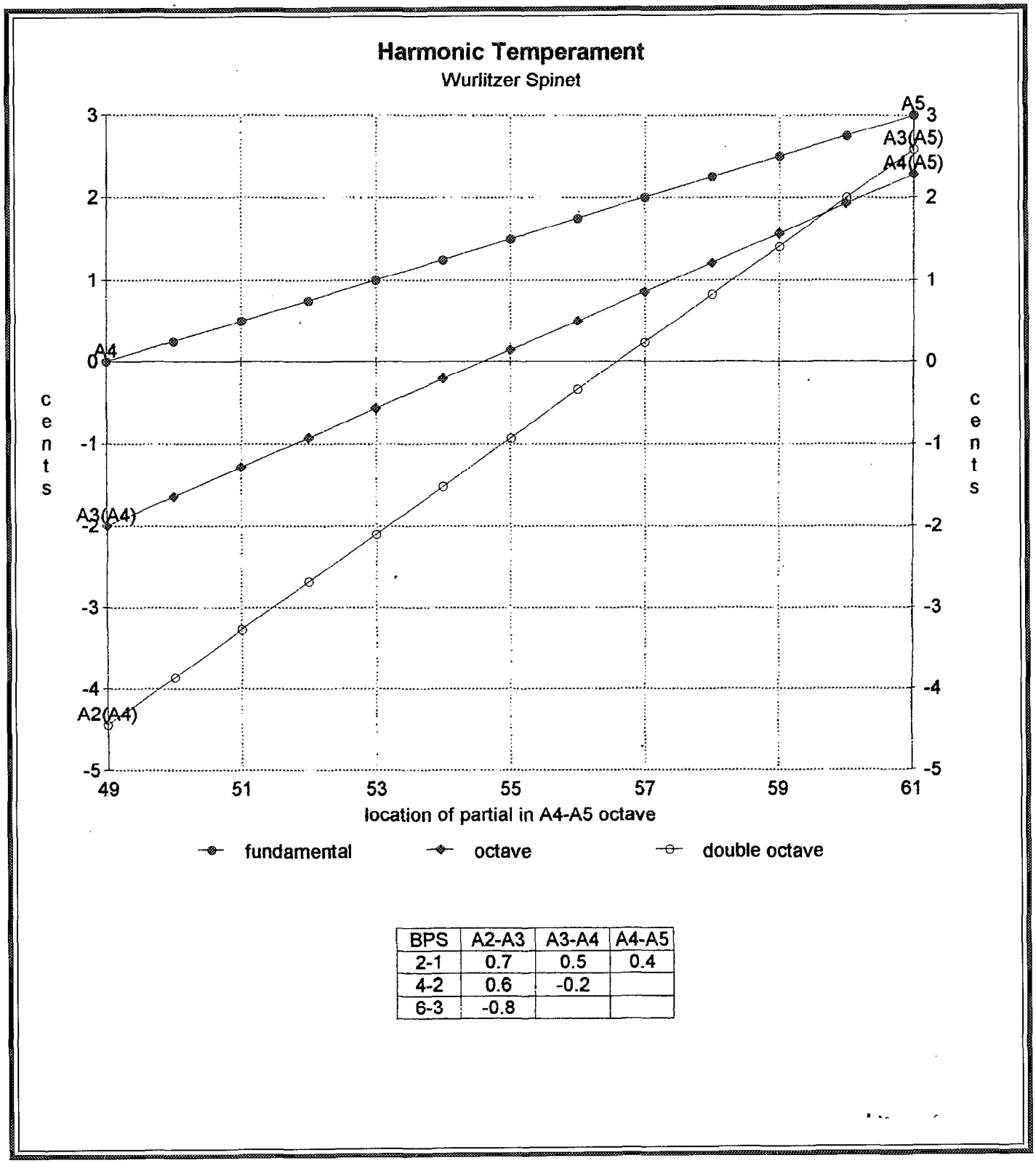
the end points of the fourth partials is obtained. This straight line behavior is independent of the piano, and of course for most pianos, although not this concert grand, includes the very irregular region of the bass break.

Therefore we have tuned a smooth progression of the widths of the 2:1 octaves from A3 up, and a smooth progression of the widths of the 4:1 and 4:2 octaves from A2 to A3.

Because of their simplicity such curves are not so interesting, but in order to emphasize some points, calculations have been made for two other pianos, a restrung Steinway M which has a bad (in terms of inharmonicity) break at the transition to wound strings between notes 28 and 29, and a spinet[4], which represents the most



BPS	A2-A3	A3-A4	A4-A5
2-1	0.7	0.5	0.4
4-2	0.6	-0.2	
6-3	-0.8		

Figure 2— Same as Figure 1 for a Wurlitzer Spinet . The line crossover indicates a narrow 4:2 octave.

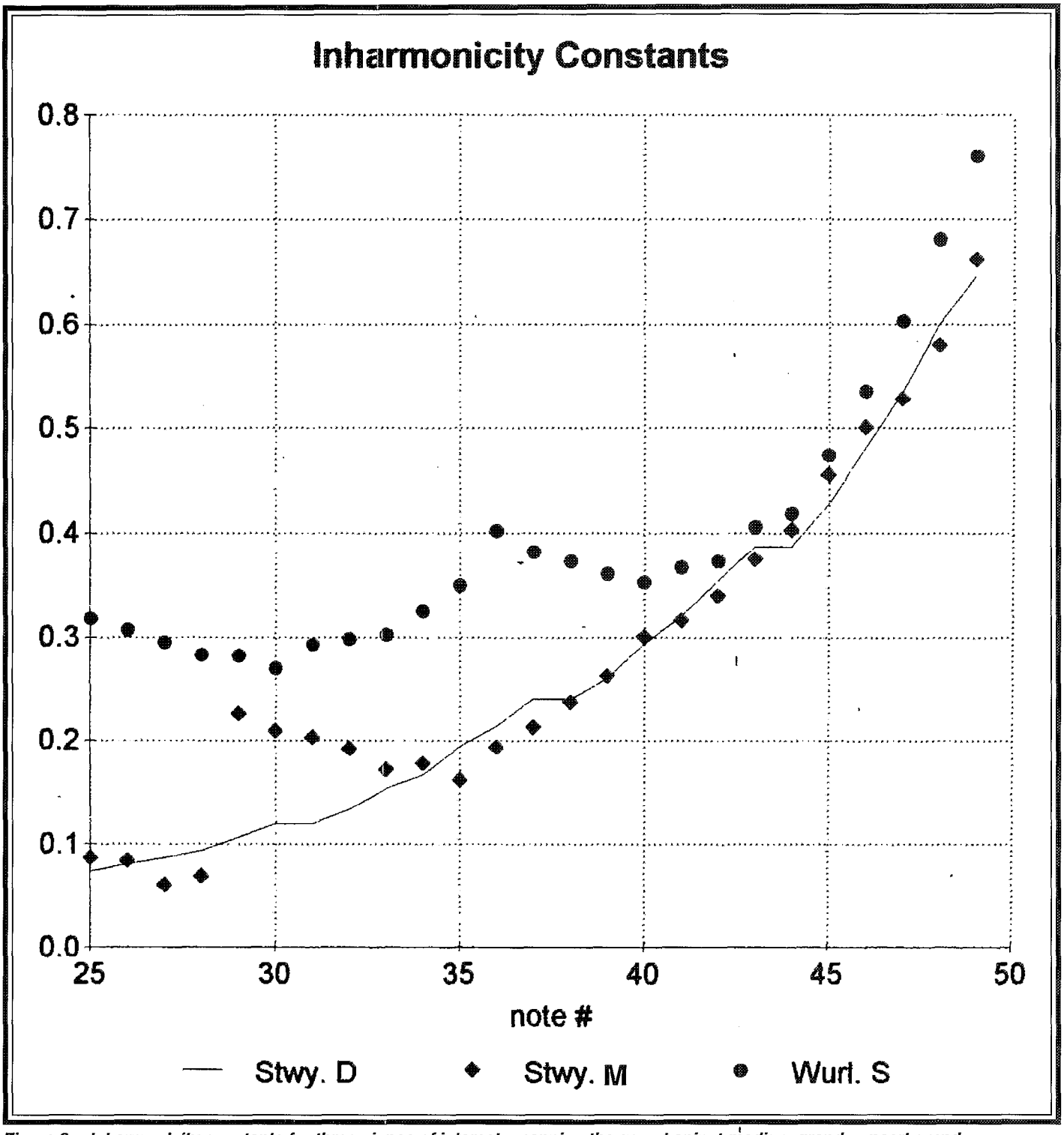


Figure 3— Inharmonicity constants for three pianos of interest, spanning the gamut spinet-medium grand-concert grand.

severe sort of problem. A comparison of inharmonicity constants for these instruments is shown for reference in Figure 3. Within .5 cents, the harmonic temperament for the "M" is identical to that for the "D", and Figure 1 is unaltered; that is, the octaves tune up in exactly the same way. It might seem paradoxical, but the tuning of both pianos would be neatly accomplished by using the same procedure and values for either one. Irregularities of the "M" scaling will only show up in the temperament itself, and in the beats of intervals other than these octaves, as discussed below.

Figure 2 shows the result for the spinet. Comparison to Figure 1 emphasizes the point that there is little difference in the complexity and results of tuning a beautifully scaled concert grand, and the notoriously difficult (for aural tuners) spinet; the challenge is exactly the same— setting the best A octaves. This step itself is only slightly more difficult in the latter case. In fact, all pianos tune more or less alike, with the span of cents in steps 2, 3b and 4b of the procedure being respectively about 2, 4, and 6 cents.

Why It Works

The procedure is based on the assumptions that: (1) except for the

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unisons, the octaves are the only intervals for which the very low beat rates are important, and (2) the procedure guarantees that if the A octaves are well tuned, the tuning of all octaves will be equally satisfactory. In rejecting the claims of all other intervals upon our attention it is well to remember that beat tests are used as a device for setting the temperament, which we have simply dialed in — more accurately — or the octaves, which we are likewise attacking directly. (Obviously, one would never abandon a tuning with clean-sounding octaves and a sound temperament because the thirds have irregular beat rates.)

Absolute priority is given to the quality of the 2:1 octaves from A37 up, although it is important to remember that the setting of A37 is not dependent solely on the 2:1. (For an illuminating discussion of the way in which optimal octaves are set aurally, see the

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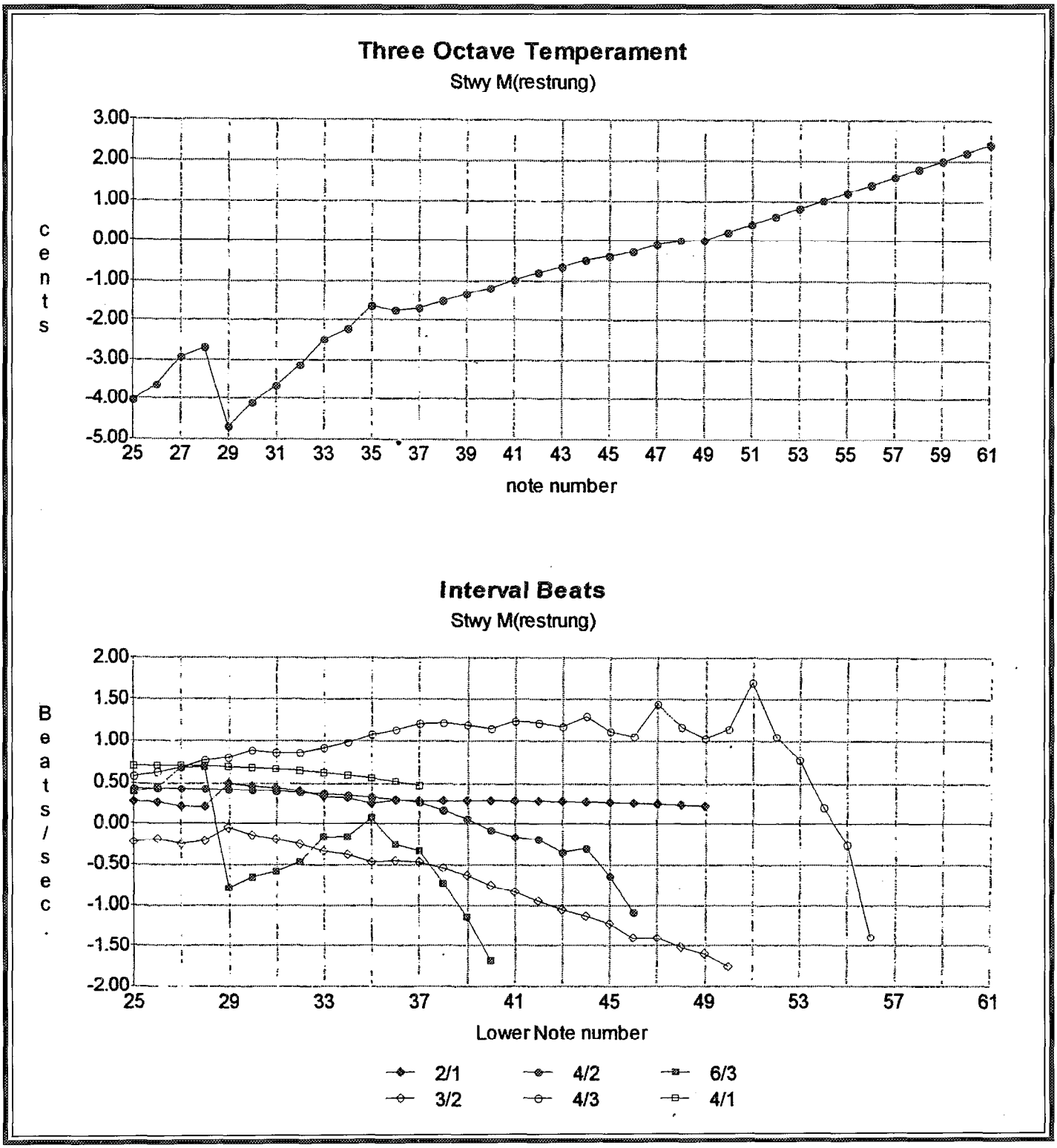

Figure 4— Temperament and beat rates of selected intervals for Steinway M. Negative beat rates signify narrow intervals.

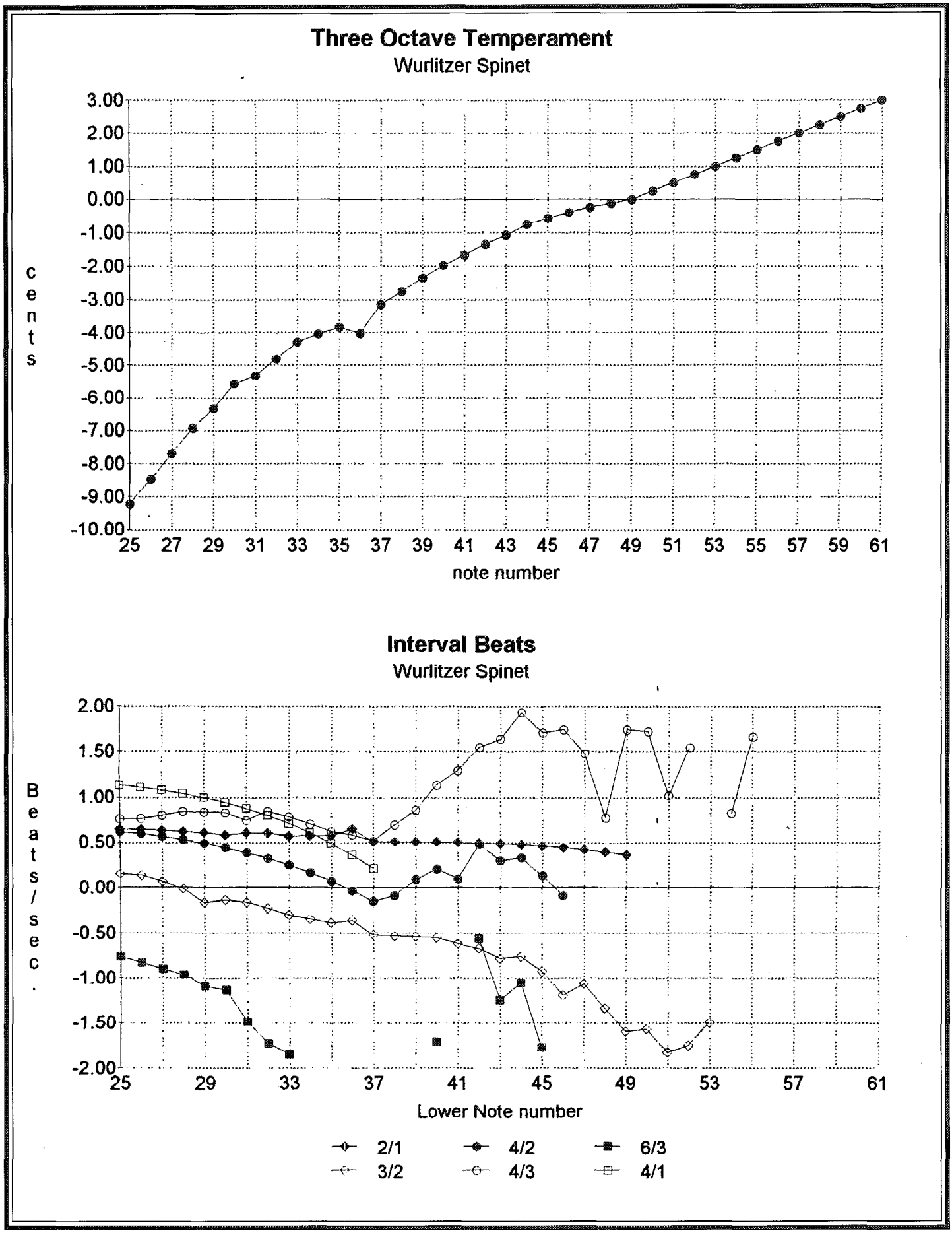

Figure 5— Temperament and beat rates of selected intervals for Wurlitzer Spinet corresponding to the tuning of Figure 2.

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recently published work of RPT Bill Clayton.[5] If A4-A5 and A3-A4 beat suitably slowly, then assumption (2) will clearly obtain. In the octave below, the smooth progression of the fourth partials (and 4:2 octaves) is not as obviously an optimal procedure, although it seems reasonable. What works in our favor here, as in any other tuning procedure, is that the 2:1 beat rates become insensitive to temperament, permitting desirable widening of the octaves, such that beating of the higher partials is reduced without penalty to the important 2:1. Because of this relative insensitivity, smoothly varying 4:2 octaves give adequately controlled 2:1 octaves, even through the transition to wound strings.

The assertion is made here, and illustrated below, that the use of this straightforward procedure leads in all cases to a tuning which is as good as can be achieved by detailed calculations based on the entire inharmonicity curve, or by any particular method of aural tuning.

Some "For Instance"

Figure 4 shows the three octave temperament and the resulting beats for the "M." The octaves are the critical intervals, but fourths and fifths are also given for completeness. Notice that, as stated above in the discussion of principles, the temperament, the 2:1 octaves, and the 6:3 octaves are all irregular between A2 and A3, while the 4:1 and 4:2 show no peculiarities associated with the bass break. Above #37 the 2:1 is smoothly varying, but not the 4:2. The 6:3 octave is slow beating in the entire lower octave; indeed, if one were to imagine smoothing these curves one would have the results for the concert grand (" D"). Moreover in the "M" the A2-A3 octave is nearly beatless out to the 10:5 level. In spite of what looks like an undesirable bass break, from the point of view of inharmonicity, this is a well scaled instrument.

Turning to the spinet in Figure 5, we see that the tuning of even this instrument seems quite straightforward. A2-A3 tunes somewhat ambiguously because the impulse to render the fairly strong 6:3 octave beatless results in an unacceptably wide 2:1, which remains a predominant beat. Although one misses the clean octaves of the concert grand, one can see that in the light of the present work this piano is, from the point of view of machine-assisted tuning, quite unremarkable.

The Rest of the Job

Tuning from A61 up proceeds by octaves according to desire: beatless 2:1 plus a cent; stretched (at pleasure) by some measured, acceptable amount, such as beatless 4:1 octaves from C7 up; etc.. From A25 down is equally straightforward; tuning beatless, to slightly wide, 6:3 octaves is satisfactory. In the case of small pianos where the A2-A3 octave may be a few cents narrow at the 6:3 level, distribute the shift from narrow to wide over a few notes—this is not critical since the sound is never really clean.

Some Reassurance

It is useful to compare some results with those of the Sanderson Accu-Tuner, which provides a current standard for machine tuning. The Accu-Tuner uses a measured sample of three inharmonicity constants (FAC) to compute a full tuning. Using the data of References 3 and 4, and inputting the calculated FAC numbers for the spinet and the concert grand, SAT outputs were obtained (courtesy of RPT Newton Hunt), and converted to temperament and beat rates, as displayed in Figures 6 and 7.

For the spinet, comparing Figures 5 and 6, it is important to note that while these tunings are not (within the limits of accuracy), the same, they are both reasonable, differing by less than

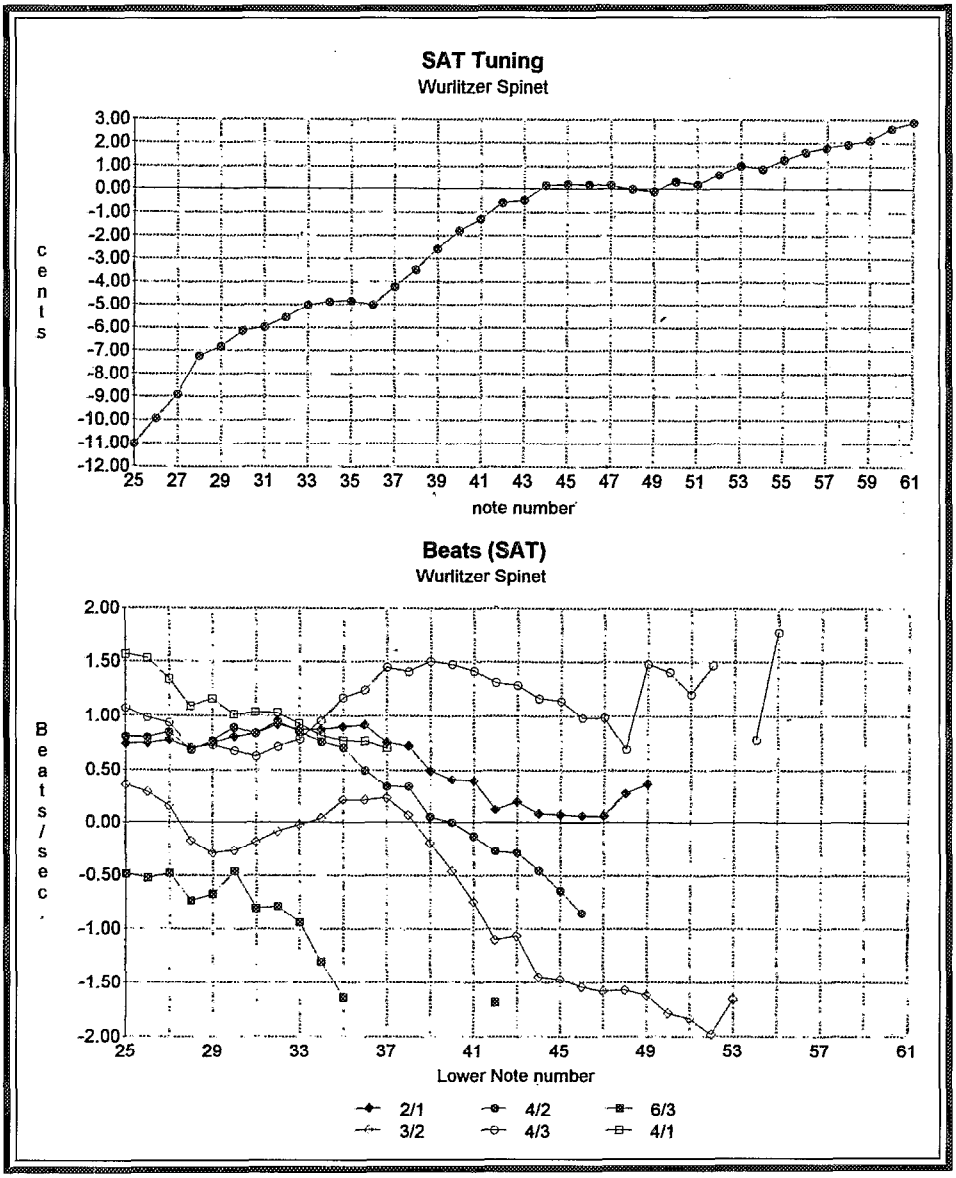

Figure 6— Temperament and beat rates of selected intervals for Wurlitzer Spinet as computed by Sanderson Accu-Tuner.

2 cents over the entire temperament. The difference in the appearance (slope) of the temperament in the middle octave arises from the fact that the SAT tuning utilizes a smooth progression of fourth partials as the basis for the temperament in this region, as opposed to the second partials of the present work. This gives a smoother progression of thirds in this region, at the expense of somewhat faster beating 2:1 octaves than one might like (aurally).

In Figure 7 the complete tuning is shown for the Steinway D, comparing the present result (Vtune) with that of the SAT. For clarity, the three-octave temperament region is shown in detail. For the Vtune calculations, perfect 4:1 octaves were used for the top octave to correspond to the SAT method, while below note #25, .5 BPS wide 6:3 octaves were used. The reason for the slight irregularity in the SAT data below #28 is not apparent. (It leaves the A2-A3, 6:3 octave slightly narrow. This octave, however, can be tuned beatless out to the 12:6 level if the 6:3 is left .5 BPS wide). Excepting this, the general equivalence of the two tunings is clear.

The Last Word

Comparisons and examples for a few pianos by no means prove the general case. However, the logic of the method is compelling; it is simple, fast, independent of inharmonicity and/or tuning calculations, and grounded in an aural tuning framework—every note is tuned with reference to the adjacent octaves— without preconception except for the quality of the octaves.

While the advantages of using a tuning device with memory are clear, there is no necessity to interpose a calculation based on sampling to arrive at the temperament, particularly since a "hands on" initial tuning (which seems desirable) can be stored.

At the same time, using this procedure, the simplest electronic devices with requisite accuracy can be used to easily provide optimal tunings.

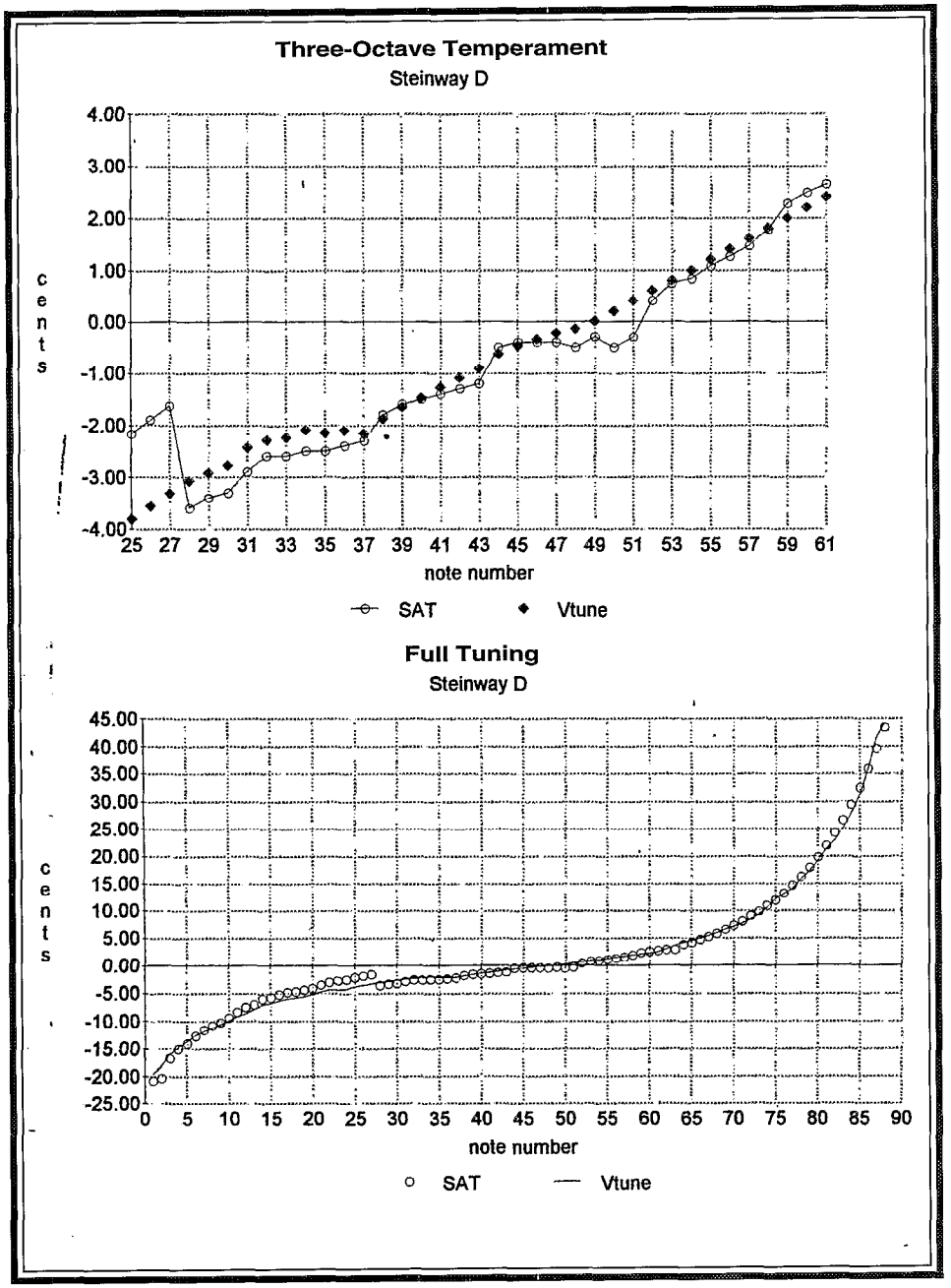

Figure 7 — Tuning curve of Steinway D as computed by Accu-Tuner and compared to present work (Vtune).

Notes

1. Sanderson, A. U.S. Patent No. 3968719, July 13, 1976
2. Smoothness and simplicity are obviously no guarantee of correctness, which will be demonstrated by example.
3. Inharmonicity data from: Roberts, D. *The Calculating Technician*, PTG Foundation Press, 1990, p. 73
4. Fairchild, S. PTJ, May 1989, p. 26.
5. Clayton, B. PTJ, September, 1996, pp. 30-1.
6. In the SAT case, this is the tuning; whereas for the present work it is a "paper tuning" based on the experience of setting octaves in similar pianos.

The Precise Blob

By Chris Trivelas, RPT
Contributing Editor

In this series of articles, we have talked about listening for the qualitative aspect of unisons tuning (instead of just matching frequencies), improving feedback loops, identifying and eliminating the weakest link first, and working within time and budget limits. This may sound both familiar and unfamiliar. Familiar in the sense that we face these kinds of situations and decisions almost daily in our work; from concert preparation, to pianos which are not worth extensive restoration yet are still crying out for some improvement. Unfamiliar in the sense that the approach to piano work which has dominated our profession in recent years is, shall we say, not at its best in dealing with these everyday situations. I call this dominant approach the "precision instrument" approach.

The precision instrument point of view states that the piano is a piece of precision machinery which must be adjusted to exact, known, measurable specifications in order to function properly. This is a powerful tool, particularly now that more aspects of pianos are accessible to measurement (quantitative analysis) and now that the tools for measurement and making use of those measurements (electronic tuning aids, computers, CAD systems, etc.) are available to virtually any technician who wants them. It is also a very powerful teaching tool, making it possible to break a job down into definable steps. In today's world, it is absolutely essential for teaching piano work to aspiring technicians. Thus it is the basis for procedures such as "umpteen steps to regulating a grand action."

I use the precision instrument approach when doing thorough reconditioning on well-designed pianos, or when doing major restoration work. I have even adopted the practice of using checklists to make sure nothing is forgotten and that the steps are done in the best possible order. After all, the piano is, well, a precision instrument which must be adjusted to certain specifications in order to function properly.

"...doing part of the procedure and stopping at step twelve will not produce an acceptable result."

But the precision instrument approach does have its limitations, and I must confess it is not the view which comes most naturally to me (perceptive readers will notice that it is not the approach I have used in this series of articles). It tends to assume that unlimited time and budget are available to do a job. For example, if you have estimated a certain amount of money to regulate a grand action, and the client cannot afford that amount but still wants some improvement, doing part of the procedure and stopping at step twelve will not produce an acceptable result. All umpteen steps are necessary. By the same token you cannot use the precision instrument approach when the piano you are working on is going to be played in concert in fifteen minutes.

In order to contrast against the precision instrument view, I am going to exaggerate it, and perhaps indulge in making a little fun of it. The precision instrument view has a tendency to make technicians focus on the engineering and technical aspects of our work rather than on the true end product, music. But it would be wrong to conclude that anyone who uses it is insensitive to music, just as it would be wrong to conclude that anyone who uses the alternative view I will be presenting is incapable of precision work.

It is a lot like the paradox about the nature of light. Light is made up of waves. This can be proved beyond a doubt. Light is also made up of particles. This too can be proved beyond a doubt. We can deal with this situation by not trying to resolve it, by saying, "light is waves and light is particles, and when it is which depends on the circumstances." But a more mature way to resolve it is to say, "Whatever light is, it is more than the categories 'wave' and 'particle' can describe, although 'wave' and 'particle' are indeed useful as partial descriptions."

So with pianos. When we use any words to describe a piano, we emphasize those qualities and de-emphasize others. For instance, when we say a piano is black, the color of the finish is emphasized while other qualities (such as case design and tone) are de-emphasized. But some descriptive words do more than de-emphasize other qualities, they hide them. When we say light is made up of particles, it doesn't just de-emphasize the wave aspects, it hides them because waves and particles seem to be exclusive categories. The same when we say that pianos are precision instruments. This description (while correct on one level) hides two important facts. One, pianos are made of materials which actually change dimension with normal changes of humidity. Two, pianos are under enormous amounts of pressure from string tension.

Precision Instrument?

Let's look at these characteristics a little more closely. One might expect a precision instrument to need adjustment every once in a while to compensate for wear, and pianos certainly fall into that category. But pianos do more than that. The parts they are made of actually change dimension with normal changes of humidity. This can change the regulation, the tone (by changing the density of the hammer felt), and of course the tuning. Many of us have done a careful job of adjusting grand let-off in the summer, only to have some hammers blocking when winter comes. This can happen because the let-off felt shrinks as it dries. Fortunately the characteristics of that felt are marvelously balanced with the characteristics of hammer wear, so that the let-off felt compresses slightly, raising the let-off, as the hammers become grooved, which effectively lowers the let-off. There are similar balances between other pairs of felts in actions. But even with these balances, changes in humidity can still cause problems in regulation. An even bigger problem is the change of friction which occurs in action

centers and key bushings with changes of humidity, again because felt and wood actually change dimension. This squishy situation is not what jumps into my mind when I think, "precision instrument."

Then we have string tension, approximately twenty tons of it. That is comparable to the weight of about 267 piano technicians in a phone booth. This tension is borne mostly by the plate, but also by the rim and stanchions, and some several hundred pounds by the soundboard as downbearing. Now when a solid material such as ice is put under a lot of pressure, such as ice in a glacier, it starts acting like a thick liquid. Older pianos have mostly reached equilibrium and are not too liquidy unless that equilibrium is upset. But it is easily upset, as when we perform a pitch change. New pianos, and pianos which have recently been restrung, seem to me to act much like thick liquids. Again, not what jumps into my mind when I think, "precision instrument."

Beware of the Blob

If the "precision instrument" metaphor has limitations and/or is incomplete, what other metaphor can we use to fill the void? I propose this one: the piano is a blob of unstable protoplasm.

From this point of view my job is to poke and prod and shape the blob into the most musical shape it can be. Meanwhile it is doing what protoplasm does: it is oozing. When I poke it here, something oozes out there. When I impose a shape on it such as a tuning, it starts oozing back to where it was. From this point of view, a well designed piano is one which oozes slowly, oozes uniformly, and in the best case even oozes in a desirable direction.

In the last couple of articles on touch-up tuning, we have described the procedure as; identify and eliminate the weakest link, then identify and eliminate the next weakest link, etc. Another way to describe it is to say; play the piano and ask yourself, "what aspect of this piano is doing the most to inhibit me from making music?" That is what should be worked on first. Then play the piano again and ask the same question. The answers to these questions determine the order of operations. Now we can see that it is not the precision instrument point of view behind this procedure, it is the blob.

For those who are kind of stuck in the precision-instrument mode, let's try to represent this graphically. On the vertical axis we'll put quality. Higher on the graph represents higher quality. On the horizontal axis we'll put various aspects of a particular piano. Some aspects of the piano will be better than others. Let's say this piano is noticeably out of tune, has very good tone in the treble, the bass strings are just a little tubby, the touch weight of the action is good, a couple of notes have extraneous noises, and the regulation is pretty good, that is, there doesn't seem to be any problem controlling dynamics or playing softly. If we assign a relative value to each of these characteristics and then connect the dots, we can see that the problem aspects of the piano form downward pointing spikes on the graph. The piano technician's job can be defined as finding the most efficient way to raise the average quality of the whole piano. From the graph it is clear that the most efficient way to raise the average quality is to eliminate those downward pointing spikes. In theory one could raise the average by increasing the upward pointing spikes, but this wouldn't work in practice for two reasons. One, many downward pointing spikes (such as a squeaky pedal) would be problems no matter how good the rest of the piano was, and two, a certain amount of time spent improving an aspect which is already good will not result in as much change as the same

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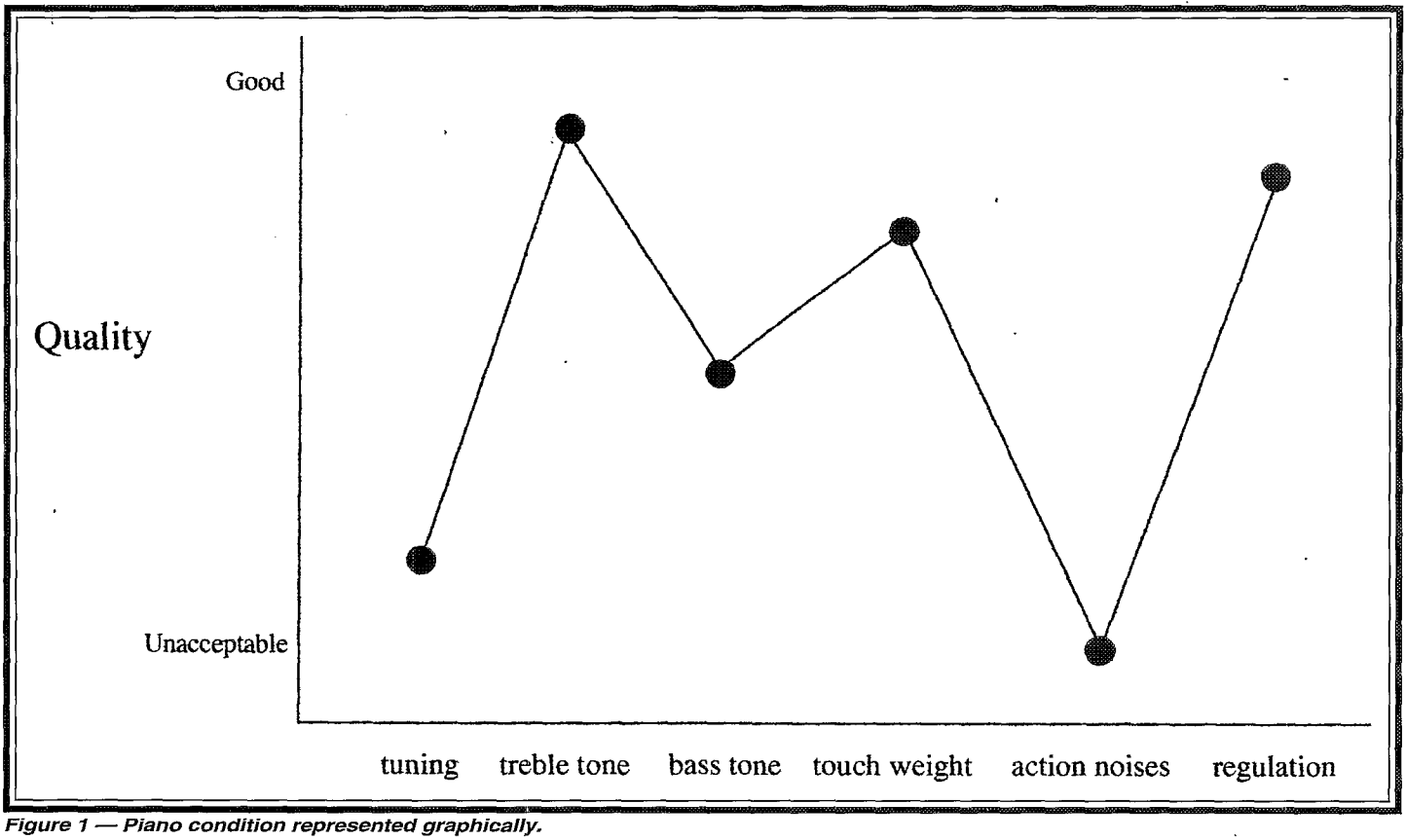

Figure 1 — Piano condition represented graphically.

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amount of time spent on an aspect that needs help. Thus increasing the upward pointing spikes is not very efficient. It can also be seen from the graph that when working on one of the downward-pointing spikes, it is not always necessary or best to bring it up higher than the average of the other aspects. Sometimes the technician's time can more efficiently be used to move on to the next downward-pointing spike. On the piano represented by the graph, the lowest quality aspect is that there are some noises in the action. These should be eliminated first. Even if this is a routine tuning call, the technician should first play the piano and form a mental picture such as this graph. If any aspects of the piano are lower on the graph than the tuning, the client (if they have not noticed already) should perhaps be informed and asked if that should be included in the service work. These downward-pointing spikes can be thought of as places where the blob has oozed out of shape.

My Life as a Blob

This is not the place to go into it in detail, but this approach does not have to be limited to an individual piano. It is scaleable if the tuning has been identified as the weak link, the technician can then proceed to identify the weak link of the tuning. In the other direction it could be applied to a technician's business in general (the most efficient way to improve the business as a whole is probably to define and improve its weakest link), or even to the piano industry as a whole. I often think about the various aspects of my life this way, but I find that sometimes it does make sense to increase the upward-pointing spikes instead of always focusing on the downward-pointing ones.

We have seen that piano work involving prominent time or budget limits can be more effectively approached using the blob point of view. Let's look at some other examples of how it can be utilized.

Suppose you are working on a grand action which is in good regulation, but a little uneven in touchweight. You suspect uneven tightness in the hammer flanges. The "precision instrument" approach in its pure form would suggest that you test each flange individually and make sure it is within specifications. And indeed this might be the best approach in some circumstances, such as if all the flanges are to be repinned. Even with this approach some shortcuts are possible. The top action can be suspended so the hammers hang down, making it easy to swing each one without removing them from the rail. But the blob approach would suggest a different strategy. You could tilt the top action (it can even remain attached to the keyboard) up on end, and slowly over-tilt it so the hammers start swinging out. Mark the first few hammers to swing out. Then keep tilting and mark the few hammers which start moving last. For completeness, you might want to tilt the action up on its other end so you can average out testing both sides of the flanges. By quickly finding the extremes and repinning the few loosest and the few tightest flanges, you have done a great deal to even out the action without resorting to the "brute force" method of testing each flange individually. Again, it is like pushing back the places where the blob has oozed out of shape.

The precision instrument approach tends to make people believe that absolute accuracy is possible, but what is absolute accuracy on a blob? In the above example, the most careful pinning in the world will not result in absolute evenness, and even if it did, it would only last until the humidity changed. This does not change the fact that maximum possible evenness is very important, but the technician should beware of diminishing returns and put his or her efforts where they will achieve the most musical improvement.

When the client cannot afford the complete precision instrument approach, or when the piano is not worth the expense, the blob approach can be very useful. But if the blob is poked too hard it can get unruly and ooze out somewhere in an undesirable way. Even just raising capstans on a vertical action can move the backchecks too close. Raising the let-off on a grand can result in too little aftertouch. Poking the blob should be done tentatively, tried out on a couple of notes first. One valid criticism of the blob approach is that it can easily turn into the "can of worms" approach.

"In the field of piano technology, the quantitative is always an approximation of the qualitative."

But I find the blob approach perhaps most useful on pianos which have recently gone through the precision instrument process. It is very satisfying to refine a piano which is already mechanically excellent. The weak points, or downward pointing spikes, will be minor, yet the last little bit of refinement can mean the difference between a very good piano and a truly great one.

It is tempting to think that the precision instrument approach could come up with a complete list of specifications and instructions for the perfect piano. It will never happen. The piano is a means to an end, that end being music. While there is broad cultural consensus (most of the time) on what constitutes music, it can never be defined in a completely objective way because it contains a subjective element. The specifications and instructions are an approximation of what is considered most musical at a given time in history. I will go so far as to assert this as a basic principle: in the field of piano technology, the quantitative is always an approximation of the qualitative.

The precision instrument approach to piano work is not only useful, it is essential. Anything in the way of extensive piano work requires it (as does building pianos). Technicians who are learning their trade are introduced to it first, and rightly so. Deviating from quantitative standards only makes sense if it improves the musical outcome. But we must also recognize that technicians are often called upon to make musical improvements in situations where the precision approach does not fit. Like the piano itself, these approaches are a means to an end. If we keep the end result, what is most musical, clearly in mind, it is easier to use whatever approach fits the circumstances best. But since the end result, music, does not lend itself to measurement or objective definition I would say that the precision instrument approach is not the closest to reality, and my heart is with the blob.

Grand Piano Pedal Problems

Steve Brady, RPT
Journal Editor

In this installment of the Roundtable, our intrepid band of cyber piano technicians shoots the breeze about one of the most common — and most important — of all piano problems. After all, a perfectly tuned, regulated and voiced grand piano is unusable for most music written after the 18th century if the pedal squawks in protest each time the player steps on it.

Garret Traylor: I have a client with a squeaking pedal on her Mason & Hamlin model BB. This is a five-year-old instrument. Technicians have tried to eliminate the squeak applying various types of lubricants and inverting the felt to give a new bearing surface. The lady is concerned that this is a "factory defect." I am sure that there is a solution. Your advice would be greatly appreciated.

Larry Fisher: Well, Garret, regarding your squeaky pedal, some troubleshooting technique would be the next thing I would pull out of my tech case.

You have to zero in on the source. Most likely the problem will be in the mechanism and not a result of wiggling the piano. If Masons are still using wood lyre supports, be sure they are not the cause by removing them or some other fail-safe method. Now operate the mechanism with your hands, starting with the pedal. Push on the pedal and see if the squeak is still there. If so move on to the pedal rod and work it up and down by hand. If the squeak goes away in either of these cases, most likely the problem is in the pedal pivot area or the pedal rod socket. Next push on the lever that the pedal rod pushes on, by hand, and if no more squeak, then the surface of the pedal rod to lever is the cause, or the pitman to lever surface is the cause, or the lever hinge area is the cause. Sometimes, an area that is over looked is the area near the hinge point for the lever. On some pianos (no brand specific) the lever rubs against the wood/hardware comprising of the hinge point. In some cases I can remove material; in other cases I've had to add some bushing cloth with Teflon® powder to eliminate the squeak. The piano owner's suggestion of a "lemon" is to be expected — they just spent a pile of dough on a toy — and are quite apprehensive about their spending habits ... I would be! One last area to check is in the action cavity. Pitman to damper lever tray contact, tray pivots, tray rubbing on something, under levers noisy, damper guide rail bushings, etc. The key here is to narrow it down to a neighborhood.

Good luck.

Dale Probst: Here's a handy list of things to try when troubleshooting pedal noises.

1) Check the alignment of all the moving parts. Is anything rubbing against anything else?

2) Remove action, check to see if damper tray makes the noise when operated by hand.

3) Remove the lyre and pedal box bottom, make sure that the pedals travel silently in the pivots.

4) Remove all the "various lubricants."

5) Replace any felt or leather that cannot be cleaned.

6) Tighten all screws, reinstall lyre.

7) Recheck for noise. Apply powdered Teflon® or Protek® to bearing points if necessary.

Gordon Large: It sounds like the "various technicians" haven't located the exact source of the squeak. You need to isolate sections by working backwards. I usually start by climbing under the piano and work the trap levers by hand. This takes the lyre portion out of the loop, and I know which direction to head. Once you've determined the source, you'll be able to deal with the squeak.

I'd like to add that often there may be a squeak in a pedal that the owner can produce, and you can't because their foot is pressing the pedal at a different angle, so try every angle you can!

You also mentioned that some had tried inverting the felt ... better to use a new piece than use the old, offending piece and expect improvement.

Newton Hunt: One of the best things to remember is cleanliness is next to noiselessness. Too much lubrication is as bad as too little.

Before a problem can be solved its source has to be isolated. There are several friction points in the pedal system and each one must be isolated and eliminated as the source before trying a fix. Shotgun-type solutions rarely work well.

— Customer shoes
— Pedal pivot
— Lyre mounts and braces
— Lyre slot linings

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Grand Piano Pedal Problems

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— Pedal rod bushings pedal end
— Pedal rod bushings guide rail
— Pedal lever pivots, linings, blocks
— Pedal spring, spring friction point
— Pedal pitman, linings and contact points
— Damper tray pivots, blocks and felts,
— Damper tray spring, retainers
— Damper wires and guide bushings
— Damper lever leads, bushings and spring seats.

Those are for only the damper or sustain pedal. The others have a similarly long list of places to check. Check each, clean as needed and use an appropriate lubricant for each point.

Rob Kiddell: As there have been several comprehensive replies on the subject of pedal squeak-tracing, be sure that the performers are not wearing rubber-soled shoes while they play. (Don't laugh, this actually happened once ... I couldn't get the squeak to happen, but the player could, so I sprayed her sneaker soles with TFL-50 Teflon® aerosol; it got her through the recital.)

Phil Sloffer: Does this M&H have a sort of normal trap with wood levers and so forth or is this one of those with a big metal box that looks like something you would never find under a piano?

If it is the usual thing then all the advice you have gotten is good. If it's the other then I don't know. We have an older one with the metal box. It had a squeak in it. Had to take the box off and remove the axle pins and clean and grease them. It was really a job. Had to put it in the vise and beat the crap out of the thing to get it apart. Not the sort of thing customers like to watch.

Steve Brady: I agree with Phil about these metal box trap systems. I had a problem with a damper pedal noise which just kept coming back. I knew it was coming from the metal box, and I cleaned and lubricated the spring contact point and the pivot like there was no tomorrow. The noise went away, but tomorrow came anyway, and the noise returned. After going through this routine a couple of times, I surmised that something strange was going on inside the box where I couldn't get to it. The trap lever felt somewhat "loose" compared to the other pedals, and I suspected a broken pivot pin. I removed the whole box and took it to my shop, where, like Phil, I put it in the vise and beat the daylights out of it to remove the pivot pin, which did turn out to be broken in two. I replaced the pivot with a piece of brass rod, and the noise has never returned. A few months later, one of my colleagues showed up with the same problem (broken pivot pin) taken from another old Mason.

Another pedal noise—sort of a chirping sound — I've found on a couple of newer Masons turned out to be the damper wires rubbing cheerfully against their respective guide rail bushings. A drop of Protek CLP® on each wire silenced the birds. I've found this same problem on other new pianos as well.

Barbara Richmond: Just this past week I serviced two (count 'em, two) instruments that had damper heads rubbing against the plate — but they produced a sound more like a grunt than a squeak. When I worked for a piano dealer, I frequently had to re-align pedal lever mechanisms in upright pianos to get them to stop squeaking (I lubed everything, only re-aligning helped).

Brian DeTar: I have run into many "squeaky" Mason Hamlin pedals that have ultimately turned out to be the damper lift tray hangers. Try removing the action and moving the pedal up and down several times while applying pressure to the side of the damper lift tray. In other words, try to move the tray left and right while engaging the pedal. If your squeak disappears, you've probably found the problem. Try lubricating this bearing (McLube® or Protek CLP® has worked for me).

As an afterthought, there is a small leaf spring under the loud pedal that can cause problems also. It is possible for this spring to develop a small crack which can cause a squeak.

I hope this helps!

Paul Dempsey: Many ideas have been aired and many excellent solutions have been ventured. Here is another that occurred to me.

You failed to mention if your BB (5 years old) is one with the high polish, poly-type finishes. If so, you may want to investigate these areas, as the poly-finishes have a tendency to squeak, creak, snap, crackle and pop, groan and moan.

I have a 7' 4" Boesendorfer that when you fold back the lid it sounds like the lid is splitting down the middle — very loudly. Putting thin felt behind the long hinge eliminated this.

As to your piano, check the bottom cap on the lyre box and the plate on the front (over the pedals, if it is so equipped). I've found that tightening the screws is usually not enough and lubrication does not help. The hard poly surfaces will still rub against each other or whatever is attached. You will need to insulate the two parts with thin felt. Don't forget the top plate that attaches to the bottom of the piano, or where the lyre supports screw into the back of the lyre.

Good Luck!!

Ken Strick: Can anyone help with a troublesome squeak I'm getting from the brass pitman and the pads it contacts? I've tried polishing the pitman with brass polish — the squeak stops for a day — then I try a lubricant (McLube 1725®) and it stops squeaking initially, but once again returns. Any help will be appreciated.

Thanks.

Keith McGavern: In Albuquerque last year I heard Norm Neblett speak of a corrective measure for this area when all else fails. Not too certain how he goes about accomplishing it, but the end results are something like the Yamaha pitman concept.

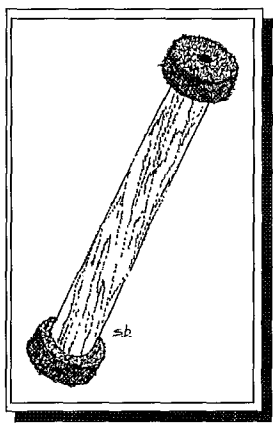
I believe he makes the hole larger where the brass rod travels through, creates a pilot hole in the under lever lift rail and in the wood lever where the brass rod contacts, and makes a wood dowel with a fluted pedal pin and punching at each end. This thereby ends all contact with the area that you say is causing the troublesome squeak.

Maybe somebody here has seen this fix in the *Journal*, or can also confirm what I am recalling.

Ken Sloane: Steinway now uses a system where the pitman fits into "felt carpeted," recessed holes in the damper tray and sustain pedal trap work. The hole through the keybed is larger than the pitman and guides it in no way. The advantage to this system — and Steinway suggests switching to it if possible — is that the pitman cannot "skate" across the leather bearing on the damper tray and trap work. It renders this area of the piano virtually squeak

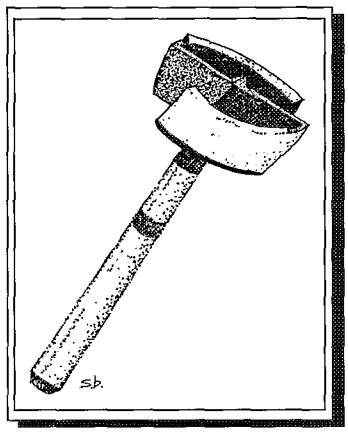
free. At Oberlin, we have converted all our Steinways over to a similar system to prevent skating. It works no better than the current Steinway system, but is easy to install as a retrofit. We mount guide pins at the ends of the pitman that fit into holes we drill into the trap work and damper tray. The bushed hole through the keybed for the pitman is enlarged so that it no longer guides the pitman. The system was suggested to me by my predecessor, Jim Moon, and it ranks as one of those miracle cures for squeaky sustain pedals.

Doug Wood: Thanks to someone's encouragement along the way, I began to redesign these, at least in some pianos, to the way Steinway currently makes theirs. For those who may not be familiar with it, the Steinway pitman is now a 1/2" dowel with a 3/4" punching of heavy white action cloth on each end. The punchings sit in recesses in the trap lever and damper tray, allowing the pitman to go through a 1 3/8" hole in the keybed. Thus, there is little potential for noise. (In fact, if anyone has ever had a noise problem here, I'd like to hear about it!) It is a relatively simple process to install such a pitman, with the right tools. I first cover the floor under the piano, then remove the trap lever. This makes it possible to drill a large hole (1 1/4" to 1 1/2" Forstner bit, started carefully!) through the keybed, centered on the existing hole. It is then easy to reach through the keybed with a 7/8" Forstner bit to drill a recess in the bottom of the damper tray (I use 7/8" thick front rail punchings on a 5/8" dowel, since I have extras in the shop.)



Dowel pitman with punchings on ends.

The depth should be approximately the thickness of the punching on the end of the pitman. Then I drill the 7/8" recess in the trap lever, right where the old pitman was. Remove the remains of the old leather. The length of the pitman is the same as the original, if the recesses are just the depth of the felt punchings. It is, of course, important not to allow glue to work up through the center hole in the punchings when gluing them to the pitman. Good-bye noise.



Forstner bit.

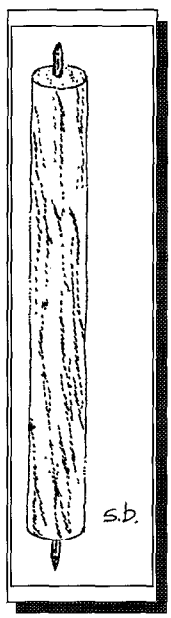
Dave Porritt: Would this void the warranty by modifying the design intent of the Steinway factory?

McGavern: I automatically understood this fix that Norman Neblett mentioned in Albuquerque to be on Steinways where the piano was way beyond any warranty period. If the piano was still under warranty, then it would seem to me that further consultation and advisement would have to take place with the necessary parties before making any design alterations.

Thank you for bringing this matter to our attention.

Ed Foote: You should replace the felt that is lining the hole through the keybed, (they are often contaminated with paste graphite, (which doesn't work on felt), and make sure that the contact points on either end are properly lubed, I prefer Teflon® powder.

A more dependable approach is to use a wooden pitman of lesser diameter, smooth ends, and pointed locating pins in either end. I use sharp center pins, extending slightly more than the thickness of the leather pad it will be embedded in. This removes the side friction from the mechanism, allowing you to look to the ends for the source of the noise.



Dowel pitman with center pins.

Be aware that there are certain imperatives in the alignment of the trap work lever and the arc position of the damper tray. Also, squeaks often come from elsewhere in the trap work, and moving the levers around to take out the pitman will often cause the noise to abate temporarily.

Dempsey: I'm assuming that you have followed the routine troubleshooting, process of elimination steps and your squeak is coming from the pitman, rather than the pedal itself, damper tray — or a half-dozen other spots.

Is the leather on the trap lever severely worn (dented in)? Likewise, the felt on the underside of the damper tray, are they gunked up with previous attempts at lubing? How about the felt that bushes the hole through the key bed?

If any or all of the above are true, you need to treat the disease not the symptom. Replace the leather, felt, and pitman bushing.

What you are going for here is nice clean felts and leather moving against a clean polished brass pitman. If any lube is needed on the ends of the pitman, I suggest the use of Protek MPL-1®

Hunt: The probable cause is not the pitman itself but the buckskin tacked to the pedal lever and/or the buckskin the lever spring is working on. The pitman lower buckskin is not glued onto the wooden lever. By slipping some glue under the buckskin you can get some more years out of the system.

If you want to keep the original design, replace all the buckskins and the felt cloth lining in the pitman hole. The problem is that the pitman does a complex dance up and down, back to front and front to back, and the buckskin and the felt get the worst of it.

As Doug mentioned, Steinway is now using a pitman of wood with a large flat punching glued onto each end which acts as a universal joint by seating into flat-bottomed holes drilled into the damper tray and into the lift lever. This system is totally quiet and frictionless, affording the pianist better control of damping. I do the following redesign (similar to Doug's).

Make the following:

— A 2"x1.5"x3/8" block with one long edge cut at the same angle as the damper tray bottom to front edge with a 5/8" hole drilled 1/8" from the inside

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Grand Piano Pedal Problems

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edge of this block.
— A block 2"x1"x3/8" glued to the angle's edge with two holes drilled to accommodate two drywall screws to go into the tray edge to hold the guide in place.
— 2 5/8" action cloth punchings.
— 1 3/8" dowel to be new pitman, about 4" long.
— 1 wedge to force and retain tray against damper stop rail.

Remove the buckskin from the underside of the tray, screw the guide into position centered over the pitman hole. Use the wedge to force up the tray for drilling. Remove the pitman felt and use a 5/8" Forstner bit to drill a hole about 3/8" into the tray. Remove your guide.

Remove the damper lift lever and center a 5/8" hole over the original pitman position and drill about 3/8" deep. Replace all old leather and buckskin with new except if there is a coil spring hole lined with buckskin.

Calculate the length of the old pitman including buckskin thickness and add the depth of the holes drill less the thickness of the punchings and cut the pitman a little longer than all this.

If you are real lucky, when you dry-fit everything back all you need to do is to glue the felt onto the new pitman, collect your money and leave. Usually it is not quit this simple. I usually have to cut two pitmans before I get it right.

The felt will compact so prepare to have some 5/8" paper punchings handy the next time you service this piano and place them in the holes to compensate.

I have successfully modified several pianos without removing the damper tray. I have also successfully mangled two trays requiring me to remove the trays, rebuild the torn wood and then drill the hole and take the tray back to the piano.

The only other problem is clearance of the pitman and the side of the hole into the keybed. I am careful to center my holes which provides ample room after the removal of the felt. Not being fully centered myself, occasionally I miss the center or it moves after I have drilled the holes. In that case, a good bastard cut rat-tail rasp comes in handy for making the original round hole not quite so round.

Once again, pedals are important. Liszt called the pedal "the soul of the piano." Let's take the time to find the real cause behind each pedal noise, and then make the appropriate, craftsmanlike repair.

Selling the Work We Love

By Bill Ballard, RPT
New Hampshire Chapter

We're always reminded that simple tuning doesn't cover all the care a piano needs. There's even an opinion that the tuning isn't worth much to the piano if we aren't also looking after its regulation and voicing besides (or as I say, working with sound and feel). Of course, simple tunings are our most efficient way of making money. But, as usual, when we go for the gelt, it means trading off other more valuable things.

Simple tuning is entry level work, and who needs (or even wants) to knock shoulders with the competition at that level? From this standpoint, it's a matter of market positioning (and wouldn't we all like to be "uptown?"). However, there's much more to be experienced with these pianos beyond how fifths and octaves combine. Once we start working with their sound and feel, we start to share the experience of the pianos' owners. Ultimately, the real "bottom line" is this. Once we get known for providing sound and feel, our reward will be increasingly better pianos to take care of. Isn't that what you want for your business?

How?

What are the challenges greeting us as we start out in this area of work? Difficulty in getting paid for it? It's a matter of selling. Square One says that you can't sell something unless someone wants to buy it. (Square Two runs on about not trying to sell music lessons to a deaf person. There's also something in there about not selling what you can't deliver ...) Don't know where to start? Ask the pianist.

"Are you happy with your piano's current sound and feel?"

"Do you like this harsh, clangy sound? Look at those flat hammers."

"Difficulty controlling the way sound comes out of the piano? Look at how little resistance the action puts up against your musculature."

"Hear the nasal quality on that note which keeps it from blending with its neighbors? Listen to the RH string as the hammer hits it, and now listen to that string when I lift the hammer up and pluck the string." "Having a hard time getting 'Moonlight Sonata' to work on this piano? How 'bout those flat knuckles and that fat let-off?"

This dialogue, of course, cuts to the chase, but with many piano owners it'll be more like coaxing to the case. It may sound like a lot of words on my part. However I'm only putting into words what the piano has been saying to the owner all along, and will continue to say to her or him after I've left. In most cases, a simple demonstration of the remedy takes far less time than my explanation (and the owner's spell of glazed eyes.)

The PTG Technical Bulletins on "Regulation" (#2) and "Voicing" (#4) and the brochure "Special Care and Maintenance of the Teaching Piano" provide excellent authority. But the piano is your best partner in the sale. I never have to look far to illustrate for a particular condition its remedy, and the quality which the piano gains thereby. If the piano owner at all appreciates what I am offering, this conversation will blossom into a long list of what the piano is asking for and should have. (The piano's owner may already know of its potential. If so, all the better.)

With the owner thus educated (and quite likely salivating for your services), you can then lay out the basic facts. First, the piano got this way because only the tuning was being tended to. The second fact is that restoring proper sound and feel may take one or two, or possibly more days. This is a degree of attention quite likely unimaginable to the piano owner. If it sounds like bad news, the good news is, however, that once done, the piano will be in such condition that maintaining sound and feel is very easy to do.

> ***"As we know, venturing into that realm means more often than not putting ourselves between pianist and piano."***

The central message runs as follows. The major action regulation and voicing will bring the piano up to 97 percent perfect (no time for vain modesty, now). At this point, as long as the pianist lets you back at the piano on any kind of regular basis, wear and tear in the regulation and voicing can be cleaned up with 15 or 20 minutes at the end of the tuning. Maintained this way, the piano's condition will float between 97 percent and 95 percent. The pianist will also never experience the piano's condition at less than 95 percent. That's when the word gets around that pianos are healthier and happier under your care. With recommendations like these, your work will be sold before you ever bring up the subject.

If

This is a reasonably working answer as to how to sell the work. Beside "how," there are two far more fundamental questions: "if" and "whose." "If" asks if we're really committed to this side of piano work. It comes down to whether we make it our calling to leave the little job description of tuning for the much larger realm of piano sound and feel. This is a personal decision, and can be a little scary. As we know, venturing into that realm means more often than not putting ourselves between pianist and piano. If the pianist is any good, they can draw quite a bit of sound and color out of a piano. However, if the piano is not up to the pianist, it's up to us to step in between pianist and piano and set it right. With few other instruments are the musicians so helpless. As a result, there's a lot of neurotic energy in this breach where we do our work. Once we've decided "if," we're henceforth filled with joy at a fine-sounding piano and we cry at a piano in sad condition.

Whose?

But whether we make this approach to every customer is not a matter of "if" but rather "whose." I mean by that, whose piano we'll do this work on. Once again, I'd no sooner sell catfood to a dog or dogfood to a cat, than I'd sell music lessons to a deaf person. But if I had a new bean dip which I wanted to sell, I'd go to a supermarket and set up a card table over by the deli section where I could cheerfully dispense free samples on crackers or celery sticks. Yes, I'm talking again about free samples of our work. But don't worry, we're only passing them out one note at a time.

Whom?

With "whose" answered, the question now changes slightly to "whom" — that is, to whom do we make the plea? Once we say "yes" to "if," there is that part of us which loves a good sounding and

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Piano Tuning, Pets & Composure

By David L. Jenson
Maine Chapter

The Tuner's Life

Most of us who work as private piano technicians perform the majority of our work in the homes of our clients. Education, experience and *Journal* articles can prepare us to deal competently with the technical aspects of piano service. We venture forth fortified with a body of knowledge that encompasses everything from skillful repairs to esthetically correct and artistically rendered tunings only to wrinkle our professional demeanor by occasionally walking smack into some unpredictable element of a client's home.

I've earned my way for many years as a piano technician and in that time I've had a number of hair-thinning experiences, all of them funny ... now, and most of them involving the capricious, lovable household pet. In my experience, the children are fairly well supervised, particularly when a non-family member is in the home. It's also been my experience that the intensity of that supervision can fluctuate depending on how closely you resemble the latest child molester paraded across the evening news. The pets, however, are another matter. Mobile, intelligent and completely unpredictable, they usually have the run of the house, and they can add quite an element to dealing with piano tuning in the home.

One evening as I left a customer's home after a witty conversational good by, I tripped, and dropped my tool case losing some of it's contents. As I knelt in the dark door yard picking up my tools mainly by feel, the lady of the house switched on a yard light and said, "Watch out for our..." She was a half-second too late. As I located and started to pick up a hammer head extractor, a small surprisingly strong hand closed around two of my fingers.

I'm completely comfortable around animals. I have pets. I live in the country and I hunt, so I'm familiar with raccoons, too. It's just mighty surprising to be grabbed by one in the dark, which explains my undignified reaction. I recovered quickly, however, when I saw the animal reaching for my expensive specialized tools as fast as he could move.

His night vision was better than mine. His dexterity was amazing, and his speed was intimidating, but I tried. We settled down to the serious task of determining who was going to amass the bigger pile of the former contents of my tool case. There was the brief tug of war when we both grabbed a capstan wrench. He growled, so I let him win. I offered a trade at one point, but he would have none of it. When the lady came to my rescue, the masked bandit left in a three-legged run carrying what he could.

I picked up the things that the raccoon had not been able to carry in his retreat, noting with dismay the number of tools the animal had managed to collect, and made my way carefully to the car. A few days later I received a UPS package, and learned that the family had recovered some spoons and other shiny trinkets in a nest in the barn along with my filched tools.

Another case involved a type of pet new to me. I've learned to be wary when people meet me at the door wearing a grin, and this client was wearing a big one as he asked, "What is the strangest call you've ever made?"

There have been some strange ones, usually involving bars, but on such short notice I couldn't think of one, and I had a strange premonition that everything from the past was going to be topped right here. I was right.

He noticed my hesitation. "Come on in. This'll beat anything you've hit so far. I've got a six foot boa constrictor in my piano. The piano needs tuning, but I'd like some help getting the snake out first."

According to the customer, the reptile had escaped his quarters and crawled into the interior of the Chickering grand and would not come out. I used the time involved in removing the first few pieces of the casework to review my knowledge of snakes. There wasn't much there. I do remember saying a few times as I removed screws, "You're kidding. Right?"

He wasn't! Behind the damper wires was a snake with a head like a small earless terrier. The creature proved to be immune to coaxing, prodding, and liberal applications of the owner's brand of snake-psychology, so the piano went back together and was tuned; snake and all.

I've seen those pictures of Indian snake charmers. That has always suggested to me that snakes have at least some sensitivity to music, and tuning is not particularly musical. To my relief, the snake kept whatever offended sensibilities he may have suffered to himself, and stayed completely out of sight. What he thought of the dancing damper levers under his belly I'll never know, but curiously, I could feel no resistance in the action.

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Selling the Work We Love

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playing piano. What we have to do is find that side in the piano's owner. That's whom we talk to.

"Yes, I'm talking again about free samples of our work. But don't worry, we're only passing them out one note at a time."

The important part in all this is that the transaction should not be between the technician hungry to sell a few extra hours work to a new customer, and the customer who, by compulsion, won't even consider the subject without first balancing their checkbook. This is a dialogue between two human beings, who happen to be pianist and piano technician, both of whom know what a good piano should be like, how far from that potential this piano is, and how much each of them wants this piano to reach that potential.

Not every piano owner will desire or even appreciate the difference you can make in their piano. But you'll be doing your business a favor if you can increase the proportion of the kind of customer who does. What could be easier than selling the work we love. It's all in the if, how, whose and whom.

Using PTG Marketing Tools

I purchased a literature (brochure) holder at an office supply store. The holder is made of clear plastic and measure 4-1/8" x 1-3/4" (inside dimension) and can be free standing or wall mounted. These holders are the right size for the "How Should I Take Care Of My Piano?" or "How Often Should My Piano Be Serviced?" brochures. I then placed them in music stores (near the cash register) or a piano teachers studio along with business cards in a holder (you can offer reduced fees in exchange for the free advertising). This will generate new customers. If you wish to display more than one kind of brochure, there is a 4-tier literature holder available also. While you are in the office supply store you can check out a File-n View Display Book. I use this book to conveniently carry the technical bulletins into a customers home. They are clear, non-stick, top-loading polypropylene pockets that are ideal for this purpose. Each pocket can hold several bulletins. This will assure that you have the right bulletin at your finger tips.

— Gerry Paluck, RPT

Prepaid Tuning Contracts

Recently I have been experimenting with the idea of a prepaid tuning contract. This provides some advantages in building an ongoing and consistent rapport with my customer. Through regular visits, I as a technician learn more about their piano.

- Whether or not action regulation is needed.
- Hammer replacement, reshaping, and voicing needs.
- Needs for key tops, fronts and sharps, etc.

We can all agree that when a piano is regulated and voiced properly, it is so much easier to tune.

With regard to a tuning contract, I feel that a minimum of four tunings is necessary to warrant a discount from my regular tuning rate. In the multiple tuning quotation to the customer I include the following items:

- My recommendation for the number and frequency of tunings based on their needs.
- A side by side comparison between regular tuning rates versus the discount rates to show savings and value.
- At the end of the quotation my terms are listed as follows; TERMS: Full payment is due upon receipt of invoice for prepaid terms to apply.

Prepaid tuning contracts have many advantages, especially for schools, churches, theaters, etc. The main advantage is that there is only one invoice. This means less paperwork for the customer and us to handle.

— Robert H. Bell, Associate

You can build the finest house in the world — but if it's on a shaky foundation it's worthless. You can build the best piano business that's the envy of everyone, but it's meaningless if you can't work. Don't be a medical time bomb waiting to go off. Staying healthy should always be your first priority. Get your sleep, pay attention to what you eat, and exercise regularly. This will help you avert injuries and illness before they sideline you and your income. Practicing good health habits will also keep your mind sharp and give you the energy to be the best you can be. Remember, when you're out of work — you're out of business!

During my class at the Dearborn convention I was surprised to find out how many technicians didn't have disability insurance in the event of a long-term illness or injury! Life is

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The Tuner's Life

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In no way would I suggest that the *Journal* initiate a course on surviving the family pet, or for that matter the other treacheries of homes, schools and churches (bars would have to be a whole separate course). However, the next time you attempt to exit a home by smoothly and urbanely opening a door and walking into a customer's closet, just remember that you're dealing with a thing that can yank the professional demeanor askew on all of us; the raw unpredictable reality of unfamiliar surroundings. As you struggle to regain your composure, it might help to remember the poor fellow who tuned a piano with a snake in it and count your blessings – unless of course, the closet you just walked into contains a snake!

Port of Call

By Ed Sutton, RPT
New Orleans Chapter

What evils lurk within, biding their time? Tuning pianos on cruise boats, in port for the turn around, is best done at three a.m., before the vacuums and carpet scrubbers start.

One morning I arrived to tune a stage piano. It had been pushed till the keyboard hung over the edge of the stage, and underneath, one of the night crew was sound asleep. His buddy could not rouse him and a sniff of his breath told why. "Give him another hour," I said, and went to tune another piano.

When I returned he was still there and his friend still could not wake him. I heard something knocking. "I will get him up," I said. Pressing the damper pedal, I leaned into my best version of *The William Tell Overture* played with both forearms, *adagio*, fortissimo. After all, the piano did need settling and the stage brought the keyboard right up to elbow level.

As the last Rolling Stones died away, I heard a moan from under the piano. Oh, the poor man! "John? What happened, John? What happened?" he said over and over. His eyes stared off, frightened and comprehending nothing. We picked him up and his friend led him, carried him away.

As I left, the sun was rising. I saw a life preserver bobbing in the river near the boat. That was yesterday. Today, I'm afraid to read the newspaper.

Business Tips

Using PTG Marketing Tools

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uncertain, and everyone should have a safety net. If you don't have this important protection you're seriously gambling with your future. You might as well walk a tightrope across the Grand Canyon. Check with your insurance agent about this inexpensive coverage.

— Bruce Genck, RPT

Inquiry calls about used pianos can take much time even though we usually re-coup that time in later service to that customer. I've found you can keep the time to a courteous minimum by answering their primary questions and then referring them to their local library where you've donated a copy of Larry Fine's *Piano Book* (or some other resource that you respect). Have the book denoted with "Gift of ABC Piano Service." Libraries are usually very happy to get new requisitions. You've helped your clients and performed a community service at the same time!

Collecting our monies A.S.A.P. from work performed for customers keep the cash flowing as smoothly as possible. When working for institutions, be sure you get their system down pat. Often, you find that the invoice needs to go to another address other than where the actual service is performed. I try to carry a few stamped envelopes in my billing container. Immediately after finishing service at the church, school or whatever, I complete the invoice and drop it in the mail on my way back to the office.

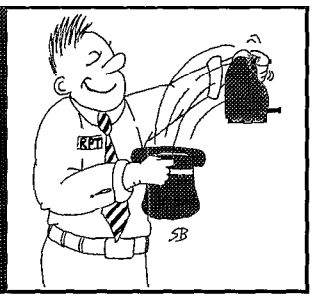
Little bits and pieces of paper get lost in filing systems, but copying the information takes time! Consider just stapling the "bit" to a full size 8 1/2" x 11" and filing that: make sure there are no folded pages. Highlighting the name or subject also makes spotting what you're looking for easier. Actually, if you're setting up new files consider legal — 8 1/2" x 13". All those long faxes and other odd size pages fit better!

Another quick "marketing yourself" technique is to carry a small folder of photos taken in your shop area of action work or rebuilding work that you offer. When you are discussing work to be done on a client's instrument, it helps to give them confidence when they see that you have done these procedures before in a professional atmosphere, etc.

— Vivian Brooks, RPT

Grand Illusions ...

The Page for Serious Cases



History of the Piano — Part II of Part I

By Bob Bullok

The Piano's Contribution To Civilization: An Irrelevant, Irreverent Perspective. Part Two of One!

Meanwhile, Khan hauled the booty to his lodge in Khankhakhee and, realizing he had no use for an instrument built to a major scale, traded it to a man called "Chang, the Elder" for another horse. A self-indulgent bunch, the Romans extended "Happy Hour," invented hors d'oeuvres, salted peanuts and those little "cocktail weenies." This helped to send the whole Empire to the dogs. The Coliseum was a sellout every time they fed the lions, and Christians soon became about as scarce as Edsel dealers. The new Emperor, a songwriter/piano-player named Petros Neuroticus, was distrustful of all artisans. He decreed that only *he* would build pianos in the Empire. Alas, one day his glue-pot, with the remains of Pliny's horse merrily bubbling away in it, was knocked over. This accident set his shop, then Rome, ablaze. A showoff at heart, Neuroticus grabbed his violin and performed an impromptu version of his latest composition, *Adelantes Infernal.* A likeness of the genetically-challenged Neuroticus is found on ancient Roman coins, over the inscription ("Hail Emperatus Neuroticus! Ignoramus Non-Compus Mentis.")

Because the discovery of electricity was nearly fifteen-hundred years hence, a period of several centuries called "The Dark Ages" followed this foolishness. To avoid being accused of wasting time, a small group of Thelonius Monks, hiding away in a little monastery in Assisi, spent several centuries painfully decoding and transcribing the *Dead Seal Scrolls.* When disputes arose in translation, they were settled in favor of the Church. This seems only fair, as Pope Petrol I provided the midnight oil. One of these holy men, Brother Norman of Luboff, wrote several volumes of liturgical music for orchestra and chorus, but, having no orchestra, the instrumental parts of his work went nowhere. The vocal parts eventually found their way into daily devotions. Few pianos survived the bitter winter of Plus 586-87, when anything wooden was converted to BTUs.

During the early years of the Middle Ages, the piano underwent many modifications, among them the addition of lids to keep out the rats and the placing of felt punchings placed under the keys, which quieted the action considerably. "Marty" Luthieri, an itinerant priest and guitar-builder, borrowed the door from a church that had once denied him a warm night's rest and built an instrument for his own parish. It was so sturdy it only needed to be tuned every eight years or so. The tradition survives to this day. Marty got the bright idea of wrapping all the strings of any given unison around a single pin. He reasoned it would make the piano easier to tune. RPTs of the period, up to any difficult task, started every tuning session by sitting in a circle and drinking a fifth of anything made from grapes. The *Circle of Fifths* is still admired by journeyman-tuners, and "one-pin-per-unison" sound scheme was used much later to launch "Country" music.

Luthieri wrote a lot of liturgical music for voice. Johann Goodunbroke, a friend of Marty's, had to invent the printing press to keep up with the demand. Many of Luthieri's choral societies still meet on Sundays, sing his music and take up a collection to put in the piano-tuning account. Some of these choruses are accompanied by pipe organs, but you have to sing pretty loud to be heard over *that* noise. Luthieri's harmony is based on the *Pythagorean Circle of Ninths,* a neat little "Brain-twister" that produces intervals four-sevenths of a note wide of "pure." This is the same interval abused by tom-cat trios for generations.

Lutheranism, also known as "Catholic-Lite," is popular among the descendants of the early northern Europeans. For the most part, these folks subscribe to a concept called Original Sin, which enables them to get their torture out of the way while they are here on Earth, so they can enjoy a peaceful Eternity. Just as the Lutherans left the Holy Roman Church, a small band of malcontents bolted the Lutheran Church and wrote their own piano music. They called themselves Baptists, named for a wandering washboard player who came by his calling while washing clothes in the Jordan River. The Baptists have been dunking each other ever since. Initially seen as radicals, the Baptists are pretty much centered in today's religious spectrum, between the rope-smokers and the Anglicans. All in all, the growth in the popularity of organized religion has not been a bad thing for the old "piano biz."

PTG Review
Dedicated To PTG News • Interests & Organizational Activities
PIANO TECHNICIANS GUILD

Industry News

Boston Piano Responds to Church Fires

In response to the rash of black church burnings in the Southeastern United States, Boston Piano Company has joined forces with AmeriCares, an internationally known charitable foundation, to help rebuild the churches and spirit of these victimized congregations. Consequently, Boston Piano will supply 38 Boston 118S upright pianos to AmeriCares, which will ship the instruments, along with modular buildings, to ensure that these places of worship will be filled with prayer and song once again.

Robert Dove, executive vice-president of Boston Piano Company, said that his company's efforts are in conjunction with Strung Structures, a Canadian manufacturer of temporary and permanent modular buildings. The 80' x 50' structures will, in some cases, serve as permanent churches that can be expanded at a later date.

"We've been outraged by the cowardly acts of a few misguided people who are blinded by hatred," Dove explained, "but the people at Boston Piano Company, like the overwhelming majority of people in this country, want to see these wrongs corrected and to show that hate will not be tolerated at any level."

Announcement of this program was made June 26 during a press conference at JFK International Airport in New York. It was followed by the immediate dispatch of a DC-8 cargo plane carrying four modular buildings and four Boston pianos to an undisclosed distribution center in the Southeast.

The remaining buildings and pianos will be distributed as soon as possible to the site of 29 other church fires in nine Southern states, according to AmeriCares' President Stephen M. Johnson.

— Excerpted from The Music Trades *by Larry Fine, RPT*

Steinway Floats Stock Despite Shaky Market

Steinway Musical Instruments, parent company of Steinway & Sons and The Selmer Company, sold 3.57 million shares

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The Tooth Fairy

By Laura Kunsky, RPT

The Tooth Fairy by Peter Collington is a delightful picture book for all ages. The special, surprise ending will delight all Piano Technicians. This book, with no words, shows the story of an industrious little Tooth Fairy who lives in a tree. The story starts in a young girls bed when she losses a tooth. Mother helps her put the tooth in a special tooth box and place it under her pillow. Then she goes to sleep and the fun begins.

Our heroine, the Tooth Fairy, flies in from her tree house, sees the tooth, flies out and travels down, under the trees to mine the silver (pick ax, and all!), stoke the furnace, melt the silver, pour it into a mold to make a coin. Back to the little girls bed she flies. She removes the tooth, replaces it with the coin and carries it back to her tree house. Firmly placing the tooth in the vice on her workbench/ kitchen table, she takes her coping saw and cuts out a tail, front and head for . . a keytop for her piano!! She then replaces the key in her upright piano by gently lifting the sticker then checking the dip, she puts the piano back together and plays her music by the morning light!

The author knows something about piano technology. The pictures are accurate and inviting. So, now we know why that Tooth Fairy buys those baby teeth and what she does with them. This hard working, talented Tooth Fairy deserves our applause! Remember Peter Pan's command to: "Clap if you believe in fairies." This book will have you and your children, grandchildren, nieces, nephews or even those inquisitive little ones who belong to our customers, clapping for joy.

I keep a copy in my car for those special customers to read to their little ones while I'm tuning. This seems to calm things down a bit! Thank you to Lucinda Strehlow, RPT of the Central Illinois Chapter, who introduced me to this book. I was able to find a copy in my local Children's book store. Published in 1995 by Alfred A. Knopf, it should not be hard to find.

Happy reading!

of common stock to the public, raising $67.8 million. After opening on the New York Stock Exchange on August 1 at 19, Steinway shares retreated to 17-5/8. The underwriting was handled by Goldman Sachs.

Wild fluctuations on Wall Street and investor uncertainty has prompted a number of companies in recent weeks to withdraw their public offerings. While Steinway was successful in its offering, prevailing stock market conditions did take a toll. The company had initially hoped to sell 4.2 million shares at between $20 and $22 per share, but scaled back its offering to 3.57 million shares at $19 per share.

Proceeds of the stock sale will be utilized to reduce debt and invest in operations at both Selmer and Steinway. Steinway shares are now listed on the New York Stock Exchange under the symbol "LVB."

— Excerpted from The Music Trades *by Larry Fine, RPT*

10th Edition of Pierce Piano Atlas Available

It was announced in September that the 1997, 10th edition of the *Pierce Piano Atlas* would be available for purchase in November 1996. After the death of publisher, "Mr. Piano" Bob Pierce, there was speculation regarding the next edition. Many within the industry were happy to hear that Bob's son and colleague, Larry Ashley, would continue not only the publication of the Pierce Piano Atlas but also the Piano Fallboard Decal business.

The newest edition of the Atlas has been expanded to include a chronological history of many of the more prominent piano manufacturers, as well as, updating piano serial numbers and current builder information.

In addition to the regular paperback edition, priced at $24.95 plus shipping and handling, a commemorative hard cover volume will be available in limited quantities at $34.95.

The business has moved to New Mexico, where Bob's son now resides. Inquiries and purchases may be directed to Larry Ashley, Pierce Piano Atlas and Piano Fallboard Decals, PO Box 20520, Albuquerque, NM 87154-0250, FAX (505)323-0252, V/MC now accepted. Visit the *Pierce Piano Atlas* Home Page on the Internet at http://www.pinon.com/atlas/

Baldwin Offers Certification Program For Concert Technicians

Loveland, Ohio — To provide outstanding technical support of its concert grand pianos stationed across the country, Baldwin Piano & Organ Company has instituted a new Concert Technician Certification Program. Technicians who are affiliated with the Baldwin Concert & Artist dealer network are invited to attend five-day certification seminars, which begin in June.

The certification program was developed to ensure that Baldwin Artists receive consistently exceptional concert-ready grand pianos wherever they are performing. The Company's goal is that all technicians who service Baldwin C&A instruments will become certified, which requires attending the new seminar.

Certification seminars will be held on a quarterly basis at two locations: each summer at Tanglewood in Mass., and each fall, winter and spring at Baldwin's Conway, Ark., production facility. The seminars are designed for accomplished technicians and will feature a comprehensive yet streamlined piano regulation

Continued on Next Page

1997 PTG Tour of Switzerland, Italy, and Greece

How would you like to see the beautiful Alps, the Leaning Tower of Pisa, the canals of Venice, the Sistine Chapel, and the Parthenon? Plans are now being made for a tour to Switzerland, Italy, and Greece. The dates are not yet firmed up, but it seems fairly certain that we will be starting our tour in Switzerland on May 26, 1997, and we shall need about two to two and a half weeks to see some of the most important and beautiful parts of these countries. We shall be attending the IAPBT Convention, and hopefully at least part of the Europiano Convention in Switzerland. We are also planning musical and business-related activities along the way. These may include the Fazioli and Farfisa piano factories, an opera at LaScala Opera House and other places as we continue planning. Other places to visit may include: Lucerne, Switzerland and the beautiful surrounding countryside; Venice, Milan, Florence, and Rome in Italy; and various parts of Greece.

So, if seeing many of the wonders of this part of Europe appeals to you, contact me now to let me know of your interest. I expect this trip will fill up quickly and we will be limited in the number who can travel with us. So please call, write, fax, or E-mail me now to start receiving more information.

Contact: Ed Hilbert, RPT, 40 Pleasant Street, Bristol, VT 05443; or Tel/FAX at (802)453-3743; or E-Mail at Hilbert@panther.middlebury.edu

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Do you possess perfect pitch or have a history of it in your family? Do you know anyone with perfect pitch? If you answered "yes" to any of the above questions, we would love to talk to you. Please get in touch with us toll-free at 1-888-897-3098 / FAX (516)562-1683, or write to Smita Kumar c/o Peter K. Gregersen M.D., Division of Biology and Human Genetics, North Shore University Hospital; Cornell University Medical Center, 350 Community Drive, Manhasset, New York, 11030 or E-mail us at PKGG7@aol.com and help us unlock the mystery of perfect pitch.

Passages

Densyl S. Custer

February 27, 1912
August 15, 1996

Densyl S. Custer drove all over town for more than 30 years to teach piano lessons or serve as a piano technician. He had strong religious roots and tried to be a good example for his children, who are now serving as ministers, missionaries, teachers and office workers.

Mr. Custer was a vocal and instrumental music instructor at schools in Florida, as well as Highland, Clermont and Brown counties in Ohio. In 1966, he retired from teaching but continued his piano service for 20 years as an associate of the Schooley Piano Tuning Service in Hartwell. The company later moved to Wyoming. He was a retired member of the Cincinnati chapter of the Piano Technicians Guild.

As a young man, Mr. Custer was active at Hollowtown Church of Christ, which was co-founded by his grandfather William "Billy" Custer. He served as past deacon and Sunday School teacher at the Bethel Church of Christ.

He graduated from Wilmington College, obtaining an education degree, and received a degree in piano technology from the University of Cincinnati Conservatory of Music.

Mr. Custer is survived by his wife, May Gustin Custer of Mount Carmel; three daughters, two stepsons, five stepdaughters, a stepmother, a sister, 26 grandchildren; and five great-grandchildren.

Burial was at Evergreen Cemetery in Miamiville.

George Wheeler, RPT

August 16, 1940
September 29, 1996

Mr. Wheeler died Sunday, Sept. 29, 1996 in Springfield, Vt., after a half-year struggle with cancer. His final months demonstrated great courage and spirit, certainly an inspiration for any who knew him. George managed to accomplish over 300 tunings in his last summer; all this between various chemo and radiation therapy treatments, and working with an arm recently rebuilt surgically. George was a mainstay of the Vermont Chapter of PTG and a fine friend. We will miss him very much.

— Tom McNeil, RPT
President, Vermont Chapter

Industry News

Continued from Previous Page

procedure as well as aspects of voicing and advanced concert tuning. Two levels of certification, Regional and National, are offered.

Baldwin Concert Technician Certification seminars will be taught by Andrei Svetlichny and Joe Vitti. Mr. Svetlichny is Chief Concert Technician and Manager of Technical Services for Baldwin's Concert & Artist Division, based in New York City. He has held this position for 10 years. Mr. Vitti is currently Head Technician at State University of New York at Stony Brook and also performs concert work for Baldwin and Steinway on Long Island.

Each seminar attendee will be provided with a Baldwin SF10 or SD10 grand piano and will be required to complete the instrument's regulation by the end of his or her five-day stay. Baldwin will pay for each attendee's lodging, meals and training course costs, with the dealer or technician handling travel expenses and a materials fee.

For addition information, contact Daniel Riscili, Baldwin Concert & Artist Manager, at (212)245-6704.

Pavia Calls On Baldwin to Hire Investment Banker

Hilton Head Island, SC — Kenneth W. Pavia, General Partner of Bolero Investment Group, L.P., announced today that he had called on the Board of Directors of Baldwin Piano and Organ Co. to hire a nationally recognized investment banker to explore a possible sale, merger or business combination involving the company as alternatives in enhancing the company's value.

In July 1996, Pavia announced that he and Bolero Investment Group had acquired a 5.5 percent stake in Baldwin. Pavia reported that the shares were acquired as an investment which he views as having significant potential for increased value. Currently, Pavia and Bolero collectively own 6.0 percent of the outstanding shares of Baldwin.

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594 MONTANA

SCOTT J. OLSON
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MISSOULA, MT 59801

EVENTS CALENDAR

January 3-4, 1997
ARIZONA STATE SEMINAR
Tempe, Arizona
Contact: Rick Florence, (602)926-4328
119 W. San Angelo Ave, Gilbert, AZ 85234

February 21-23, 1997
CALIFORNIA STATE CONVENTION
Radisson Hotel, Sacramento, CA
Contact: Yvonne Ashmore, (916)273-8800
12700 La Barr Meadows Rd, Grass Valley, CA 95949
Website address: www.dcalcoda.com/ptg/

March 14-16, 1997
PACIFIC NORTHWEST
West Coast Tyee Hotel, Olympia, WA
Contact: Mitch Kiel (360)264-5112
11326 Patsy Drive, SE, Olympia, WA 98501

April 3-6, 1997
PENNSYLVANIA STATE CONVENTION
Days Inn, State College, PA
Contact: Fred Fornwalt, (814)942-1489
1333 Logan Blvd., Altoona, PA 16602

May 1-4, 1997
NEW ENGLAND / EASTERN CANADA REGIONAL
Ramada Inn, Portland, ME
Contact: Joseph Bacica (207)846-0966

May 9 & 10, 1997
UTAH INTERMOUNTAIN SEMINAR
Snowbird Resort, Salt Lake City, UT
Contact: Judy Rapp, (801)298-7875
1151 West 400 North, W. Bountiful, UT 84087
P.O. Box 1575, Portland, ME 04104

July 23-17, 1997
PTG NATIONAL CONVENTION & TECHNICAL INSTITUTE
Twin Towers Hotel & Convention Center, Orlando, FL
Contact: PTG Home Office (816)753-7747
3930 Washington, Kansas City, MO 64111

All seminars, conferences, conventions and events listed here are approved PTG activities.

Chapters and regions wishing to have their function listed must complete a seminar request form. To obtain one of these forms, contact the PTG Home Office or your Regional Vice President.

Once approval is given and your request form reaches Home Office, your event will be listed through the month in which it is to take place.

Deadline to be included in the Events Calendar is at least 45 days before the publication date; however, once the request is approved, it will automatically be included in the next available issue.

AUXILIARY EXCHANGE

Dedicated To Auxiliary News and Interests

The Good, The Not-so-Good, & The Good

I have just returned home from Orlando, Fla., from the Convention Planning Meeting, which took place on Sept. 21 at the Radisson Twin Towers. I have good news and some not so good news.

Let's start with the good news. All of the fees for registration at next summer's convention have gone up in price *except* those for the Auxiliary. I was able to hold the line at last year's prices. Now we have to give in a little for that price. The room we will be using is rather small, and we will dribble out into another room, but I think we will be more comfortable in a smaller room where we can hear every one talk. We will not need audio equipment as that is more money! So we will use that room for our meetings and the luncheon. The room is right next to the restaurant anyway so that makes it easier.

The second bit of good news is that we will be able to attend the business classes that PTG is providing on Sunday morning. There was a considerable amount of talk about spouses taking technical classes, and I understand both sides of the argument. If a spouse really wants to learn the business, he/she should register as an associate and go to all of the PTG classes. My proposal was voted down, which was for Auxiliary members to take up to seven classes and pay $15 per class or $85 for seven. So there you have the not so good news. I would; however, advise that those of you who really work the family business and want to learn tuning, repair, etc., to take advantage of your regional seminars or go with your tuner-spouse to the local meetings. Ask a local Auxiliary member or members to have a child care support group that night.

Phyllis Tremper
PTGA President

Now on to the fun. I will be writing more in the PTGA Newsletter about the activities in Orlando for next summer, but just a brief taste of things to come here. I have arranged a "back-of-the-scene" tour for those who want to go backstage or under ground, as it were. It will be from 12:30 to 4:30 p.m., which includes five rides (where you can sit down). This includes the new 25th anniversary parade in a special place for us to see. As you may know, on Oct. 1 Disney had a day long celebration on ABC-TV. I hope many of you saw this on Good Morning America. The cameras were all there right where we will be next July. They will be celebrating this anniversary all year so we will be able to take part in their 25th anniversary on our 40th anniversary. Yes, Marshall said at the meeting that it is the 40th Anniversary of PTG. Let's all bake a cake.

More about Disney. The tour is lot of walking. Now there are several things you *must* bring with you if you go to Disney World: 1) A very good pair of broken-in walking shoes. Do *not* wear a new pair of shoes there, 2) A water bottle. It was very hot there last week (September 22-28, '96) when I was there but it will be much hotter next July, which brings me to number 3), a hat. The sun is hotter and stronger overhead in July.

One thing I did which was very interesting. My sciatica was bothering me, so all of my Florida friends said, "Ask for a wheelchair." I did and found the park *very* wheelchair friendly. You don't have to stand in line, and there will be longer lines next July than I experienced last week as children were in school, but there still were lots of kids in the park last week. Wonder why? So anyone who needs a wheelchair should let me know by June 1 so that I can let my tour guide know. Speaking of tour guide, Dan Chesnicka, was most helpful and will be a big help to us if we let him know as much in advance as we can.

The tour takes only 15 in a group, so I will need to know how many groups of 15 are going by March 15 so he can arrange for a guide for each group. Now here is the catch. For this background tour only people 16 years of age and up will be admitted. They do not want to spoil the fantasy of seeing Mickey getting dressed

Continued on Next Page

VISION 2001

Consider this perspective

Imagine an annual convention without the Auxiliary
No spouses, no sightseeing, lunches, renewing friendships or fun
Our numbers, for sure, would be missed sorely
However, in my opinion, our *presence* would be missed more

We are not tag-a-longs
We are all essentially connected to our spouses's business
in one fashion or another
although most of us are not piano tuners nor technicians

We are the underlying support and strength which makes
all the difference at home to our spouses
as well as to the success of the overall annual convention

We promote the PTG
We are the workers
We are the cheerleaders of the Guild
We promote good-will and understanding in the music world
We award scholarships to students of piano

Call it *Vision 2001* or whatever
The Auxiliary is a valuable asset to the PTG - undeniably
We count

A VISION: acknowledge us with the respect and status we deserve
CHALLENGE: welcome those interested Auxiliary members to your Institute classes as your guests

The *time* has come that we should be recognized for our worth,
appreciated as a vital part of the whole

— Carolyn Sander, Vice-President

The Good ...

Continued from Previous Page

or Minnie without her costume. So kids under 16 will not be allowed on this tour.

The four categories that Disney promotes are: safety, courtesy, cleanliness and show. And believe me, they were all there. I thought before I went there that it was just another tourist trap, but I was really impressed with all of the cast members. They do not call them employees, they are cast members — from cleaning maintenance to balloon sellers to character actors. All were very helpful, kind and respectful. And, oh, is the place clean. The grounds are beautiful and well manicured. Even the Disney characters are trimmed in the bushes. Amazing place. Do come.

I am looking into transportation from the hotel to Disney World but more about that later. There is so much to tell you that this will be spread over several months columns so watch for the next installment of Disney World, 1997.

I leave you with a quote from E. Joseph Cossman, "Middle age is when your broad mind and narrow waist begin to change places."

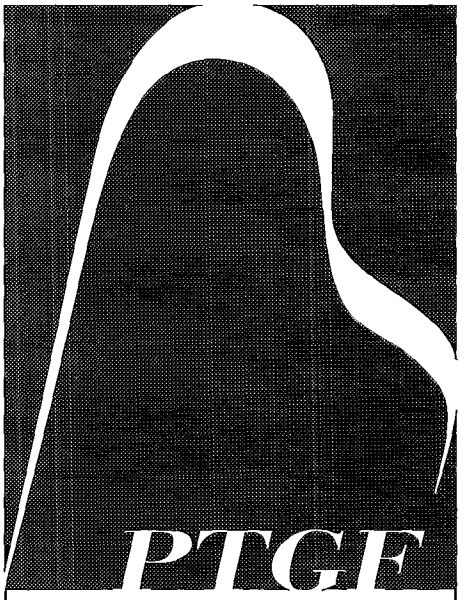
Remember now to ***Put a Little Music in Your Life!***

Have News You Want to Share?

Please send your news and information to Karen Young, formerly Karen Dickson, for the fall Auxiliary Newsletter. We plan to publish in early- to mid-November. Karen can receive E-mail at tryrpt@ix.netcom.com until she opens her own E-mail account.

Correction

In the September 1996 *Journal*, the names of Vice President **Carolyn Sander** and Secretary-Treasurer **Marilyn Raudenbush** were switched in the photograph of the 1996-97 PTGA Board of Directors.



The PTG Foundation Needs Your Help!

The history of PTG and its predecessors is in danger of being lost. As part of its mission, the PTG Foundation has taken on the task of preserving that history.

The work of collecting, organizing and preserving our past must be an ongoing part of our present. Your donation of money or historical materials will allow us to continue this important work. You may also designate the PTG Foundation as the beneficiary of your PTG death benefit. Contact the Home Office for details.

Honor a mentor, friend or associate, either living or deceased, with a tax-deductible contribution. Three contribution levels have been established:

- Patron ($100 or more)
- Contributor ($50-$99)
- Supporter ($35)

To make a contribution, or for more information, contact:

PTG Foundation
3930 Washington
Kansas City, MO 64111
(816) 753-7747

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WANTED

CAN YOU HELP ?
Would like to contact the Tuner-Technician who worked on the piano for the Bill Grahams Fillmore Theatre in Greenwich Village, NY in the 60's and 70's. Please write to: J. Kirsch, 4485 Baintree, University Heights, OH 44118.

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PianoDiscussions™

November 1996

News From The World of MSR/PianoDisc, Knabe, Mason & Hamlin

What's new (and old) at Mason & Hamlin? Ask Paul Monachino!

Not every company is lucky enough to have an historian, particularly one with intimate, personal knowledge of over 50 years of the firm's triumphs and trials. Mason & Hamlin, however, is among the fortunate ones and our man "in the know" is Paul Monachino.

When Paul joined the company in March of 1946, he was 21-years-old, and fresh out of the service. His very first job was in the shipping department in the Rochester, NY, factory, but he was promoted to the Action department within two months. Over the years Paul learned and performed every facet of piano making. Eventually he was Lead Man and his union's president for many years.

In the '60s, Paul experienced one of the proudest moments of his career, when he represented the entire labor force of the piano industry at the congressional hearings on tariffs. Among Paul's tasks was explaining to the Senate why piano manufacturing could not be fully automated. ("I had to explain that pianos are as individual as the people who play them.") In the end, and against great odds, his side emerged victorious.

In 1985, the Rochester plant was closed and Paul was out of work. That lasted a few months until the Sohmer Company hired him to continue making Mason & Hamlins for them.

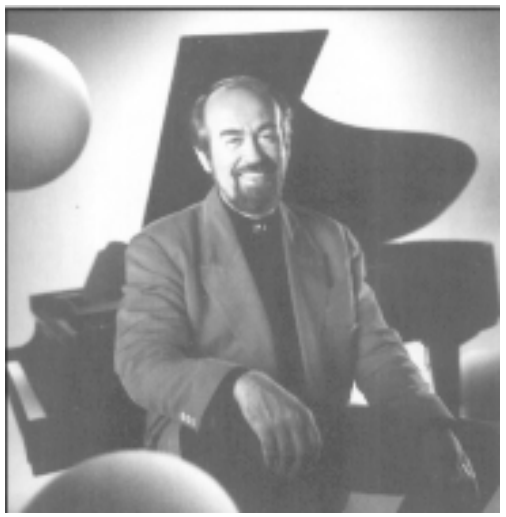
Today, Paul is officially Quality Consultant for Mason & Hamlin, as well as our "ambassador-at-large." He's frequently called on by the PTG to conduct seminars on the history of Mason & Hamlin. It's a subject fascinating to PTG members, he says, because "these pianos have a real following, and lots of people out in the field are supporting us. Everybody is ecstatic to hear that we're going to be making the Masons like they **were**. And of course, they are keeping up-to-date on our progress. Some have even been calling us the 'phoenix-like Mason & Hamlin.' Which really is what we are."

In addition to his work on our behalf, Paul finds time to play a little golf now and then, plus spend time with his wife and family. In fact, he and Mrs. Monachino recently celebrated their 50th wedding anniversary.

"I started to work for Mason & Hamlin in March and got married in October. I've stuck with **her**, too! Well, really she's the one who stuck with me!"

Whatever the case, it's clear to us that the last 50 years of Paul Monachino's life have been very good indeed — for everyone concerned.

Roger Kellaway records for Artist Series



Roger Kellaway has been described as "a musical chameleon" and "the most awesome jazz pianist quite possibly anywhere on earth." In the words of Oscar Peterson, "I love Roger Kellaway. He knows the tradition and he's not afraid." The quote which best sums up Roger's very eclectic music and career is his own, however: "All music is an adventure ... with every turn there is another universe of knowledge available to us."

As proof of his versatility and unwillingness to be pigeonholed by categories, he has recorded over two hundred albums, and played with everyone from Dizzy Gillespie to James Galway, Gil Evans to Michael Tilson-Thomas, Elvis to Ellington, Lena Horne to Joni Mitchell, Sonny Rollins to Yo-Yo Ma. Kellaway is not only a major jazz pianist, he is also a prolific composer, writing in the jazz, classical and popular music fields. Major projects include a ballet commissioned for George Ballanchine and the New York City Ballet, orchestral pieces for the Los Angeles Philharmonic, and a concerto, "Songs of Ascent," commissioned by the New York Philharmonic and conducted in its world premier by Zubin Mehta. Kellaway is, simply, a musical genius with a free spirit: quite capable of doing it all, and utterly fearless to go where his musical ideas take him.

Earlier this year, Kellaway recorded his first disk for PianoDisc's Artist Series. Due for an early '97 release, it features some of Kellaway's jazz and New Age explorations. A highlight is a 13-minute version of "My One And Only Love" — a fabulous piece that offers listeners a guided tour of Roger Kellaway's vast musical imagination. When it's over, you'll know you've been somewhere truly extraordinary.

TRAINING SCHEDULE

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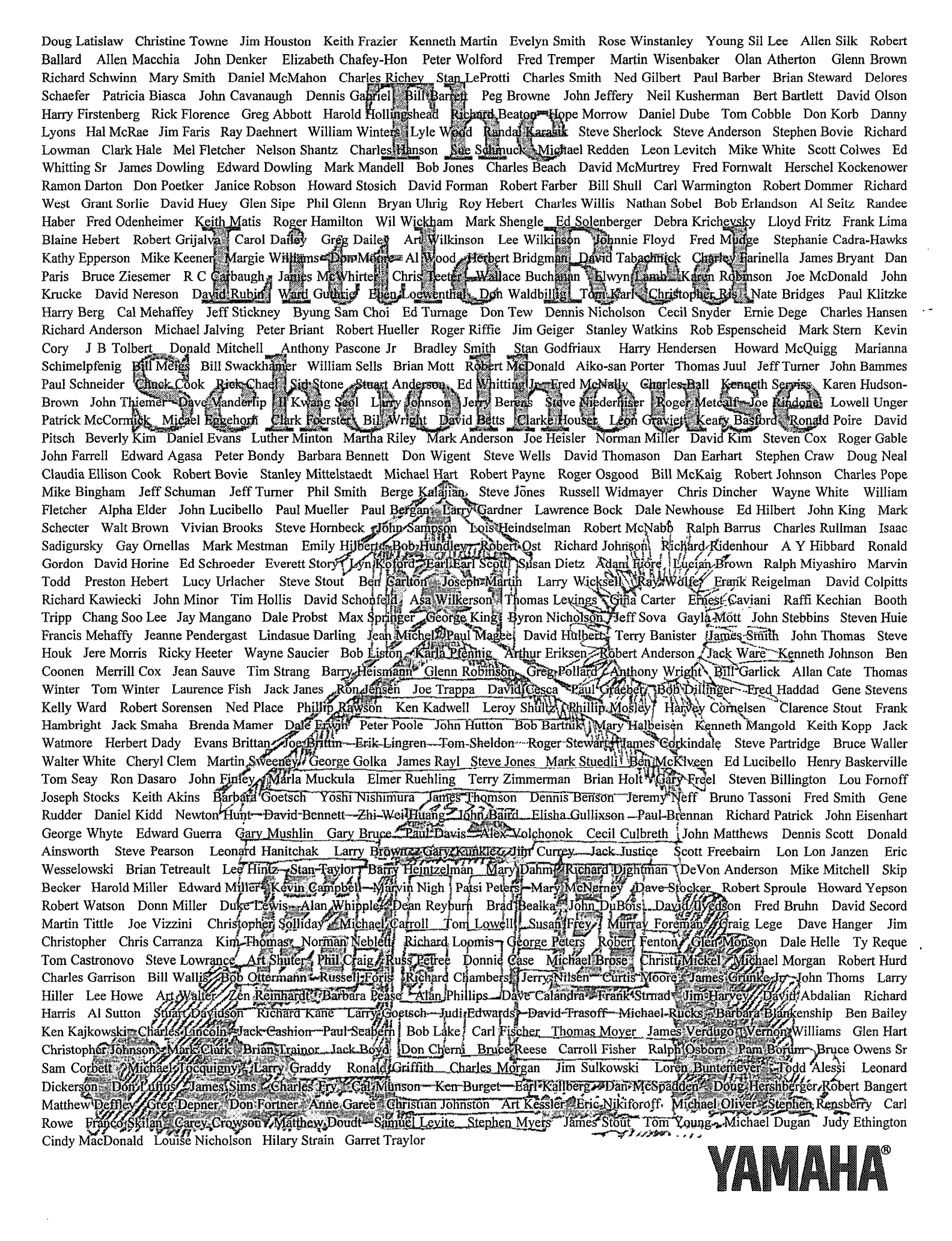
Tuition for the installation and Continuing Education seminars is **free**, but a $50.00 refundable deposit is required for confirmation. The PianoDisc Continuing Education Series seminars are restricted to PianoDisc certified technicians in good standing. For more information about attending a PianoDisc Installation Training seminar or a Continuing Education seminar, call PianoDisc during our office hours.



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