

PIANO TECHNICIANS Journal

Official Publication of the Piano Technicians Guild

September 1998

Vol. 41 • #9



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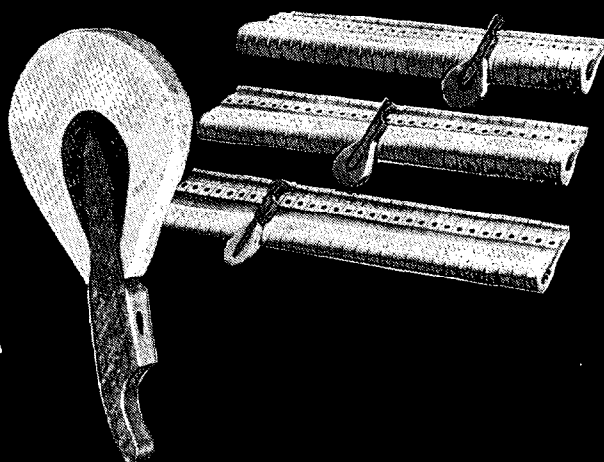
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Official Publication of Piano Technicians Guild

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EDITORIAL PERSPECTIVE Rejected!

Although we piano technicians differ greatly in our approaches to piano service, our personalities, and our clienteles, I would bet that none of us has completely escaped the experience of being rejected by a long-time client. My guess is that it happens even more frequently than we realize — it only hurts when we find out about it.

I know for certain that within the past year I have been involved in several rejection scenarios — serving in some cases as the technician being rejected (the Rejectee, if you will), and in others as the new technician, otherwise known as the Knight in Shining Armor — riding in to replace the Rejectee.



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Steve Brady, RPT
Journal Editor

It occurs to me that the experience of being the Knight is usually a happier one than playing the role of the Rejectee. For one thing, getting hired is always more pleasant than getting fired. For another, the Knight more often than not knows who the Rejectee is. The Rejectee rarely gets to find out who the Knight is. The Knight almost always is told why the rejection has occurred, while the Rejectee almost never finds out. You wonder, what are they saying about me?

I've always thought it would be nice to know why I was being rejected, but in the few cases where I actually found out, it didn't make me feel any better — although it did serve as a kind of learning experience. Being rejected because the Knight's fee is lower than mine doesn't bother me, but I really hate being rejected because of a

client's perception that I did something wrong or didn't do something I should have.


Why should rejection by a client hurt? Shouldn't we just take a "roll with it" attitude towards the whole thing? After all, we don't own our clients, and in most cases they are under no obligation to use us as opposed to someone else. So why does it hurt?

Perhaps it's because we often get to know these people so well. To me, these are the tough ones to lose: the ones where I've worked for them for several years, developed a strong relationship, socialized with them, or just felt a special bond there. I feel fortunate that I've lost very few in that category, but the ones I have lost have made me wonder where I went wrong, and yes, I've absolutely agonized over a few of them.

Can't we just maintain a professional, somewhat distant relationship with our clients? Just think about the piano, not the person behind it. Wouldn't that be the best way to avoid being hurt? Probably not. In the first place, as one of my colleagues pointed out, many of our clients won't let us maintain that cool distance. They draw us into their lives and their confidences because we assume shaman-like qualities with respect to their loved and valued instruments. But secondly, and even more importantly, it's not a good idea to avoid the pleasures — and the pains — that our work can afford. This is where life is: in experiencing a full range of joy and sorrow. If we attempt to insulate ourselves from emotion, traveling through life feeling never really anguished, but never really ecstatic, we become like a piano whose dynamic range is limited to somewhere between mezzo-piano and mezzo-forte.

People (including piano-owners) sometimes just need to move on. Their reasons are myriad, and not always rational. Sometimes it can be a personality clash, sometimes a misunderstanding or lack of communication. Sometimes, it may actually be that the client has found someone who is able to address the piano's needs better than you can. But, for whatever reason, being rejected is as much a part of our business as being hired.

When I'm called upon to be the Knight in Shining Armor, I do so happily, hoping that I can slay the client's dragons. But I also realize that my tenure with this new client may eventually terminate like that of my predecessor. When I discover that I'm a recently appointed Rejectee I try to find out why, but I realize that, for a variety of reasons — even if I ask directly — I may never know the truth about it. I try to be philosophical and

not to take it personally, but it still hurts. And sometimes, precisely at a moment when I'm wondering why I haven't seen a certain client in far too long, the phone will ring and an unfamiliar voice at the other end will ask, "Is this Sir Galahad?" 

Please submit tuning and technical articles, queries, tips, etc., to me:
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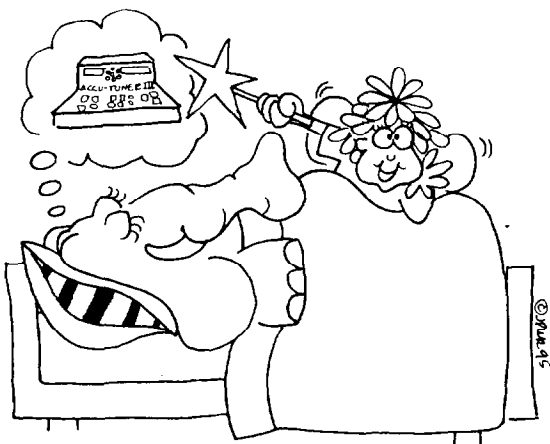
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FEATURES

- 14 — **The Swan's-Wing Temperament**
Ed Sutton, RPT, introduces a new approach to setting equal temperament.
- 17 — **Some Thoughts on the Design of Bass Strings**
Part II of RPT Richard Brown's three-part article on the principles behind modern bass string design.
- 20 — **Trigger Point Self-Massage for Piano Technicians**
Clair Davies, RPT, returns with Part IV of his eight-part series on how to overcome the thousand natural shocks our craft is heir to.
- 24 — **World-Class Junk**
In "We the Willing," RPT Susan Kline explores what to do when you can't do what the piano really needs.
- 27 — **Same-Day Differences in Humidity Levels**
A study by Ward Guthrie, RPT, on the variability of humidity readings possible on the same day in the same city. Reported by Damp-Chaser's Bob Mair.
- 28 — **The Tuner's Life**
Alaska's senior piano technician, Al Seitz, RPT, is the subject of this profile by Anita Sullivan.

COLUMNS & COMMENTS

- 2 — **Editorial Perspective**
Rejected
By Journal Editor Steve Brady, RPT
- 6 — **President's Message**
Learning is as Easy as PTG
By PTG President David P. Durben, RPT

DEPARTMENTS

- 8 — **TT&T**
Tips on repairing broken keys, replacing missing pedal rods, fitting hammers to strings, and making precise regulating rack adjustments.
- 10 — **Q&A**
Is methanol really the best type of alcohol to use for sizing flange bushings? What do you do when kitty decides to make alternative use of the piano? What do you do about a separated back on a Janssen piano?
- 13 — **Letters**
Will this letter from Jack Bresette-Mills be the last word on bending tuning pins?
- 29 — **The Puzzler**

IN ADDITION

- 30 — **PTGReview**
Articles and information dedicated to the news, interests and organizational activities of the Piano Technicians Guild. This section highlights information that is especially important to PTG members. This month: Thinking a Little Bit Bigger; Gone, But Not Forgotten; Student Earns Puget Sound Scholarship; Industry News; Company Hits High Note with Golden Anniversary; Passages; Calendar of Events; Reclassifications; and New Members.
- 36 — **The Auxiliary Exchange**
- 37 — **Classified Advertisements**
- 40 — **Display Advertising Index**

PIANO TECHNICIANS Journal

Volume 41 • Number 9 • September 1998

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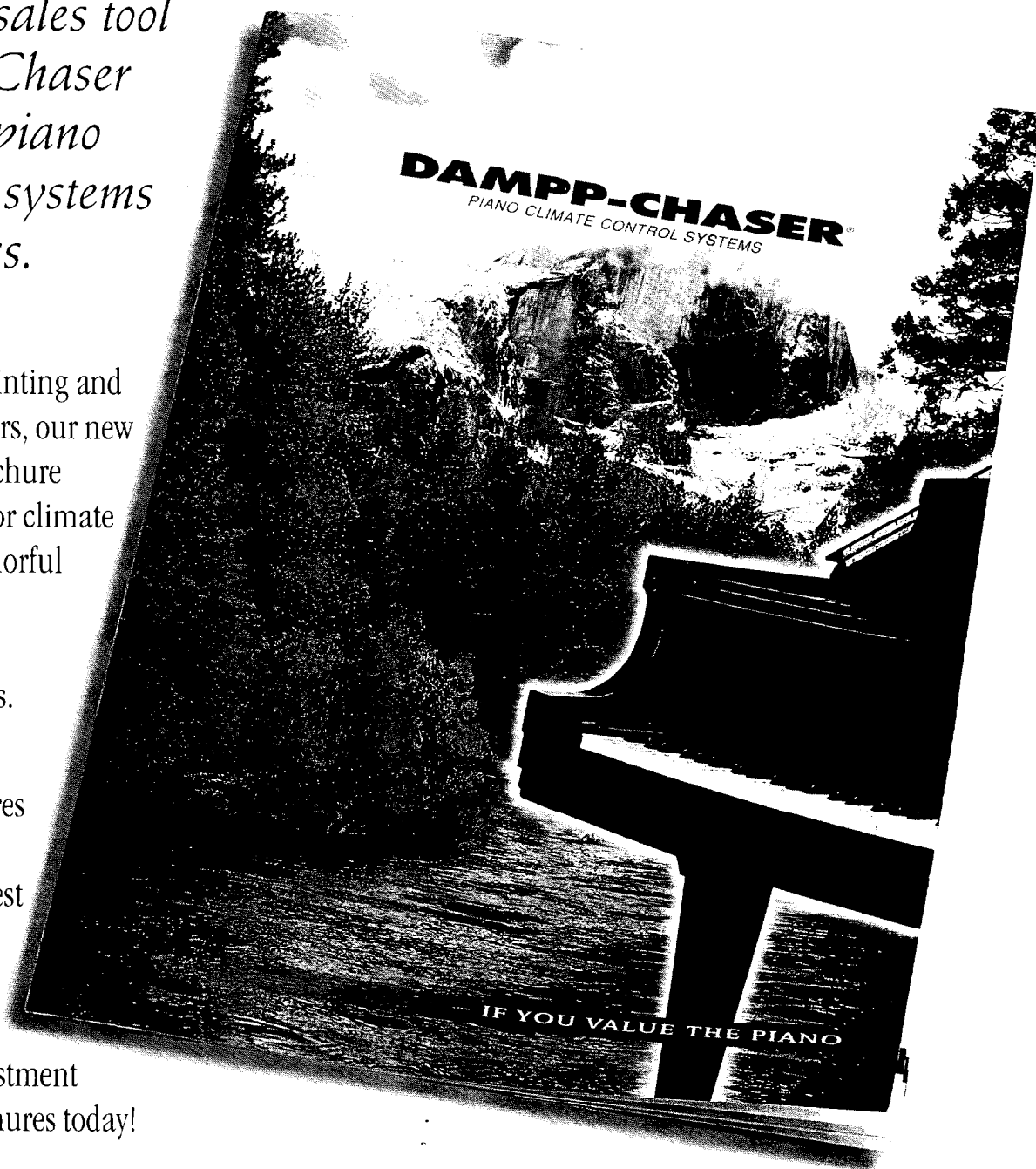
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For the most part, when we write for the *Journal* we are preaching to the choir. If you are reading this letter it means that you are probably a conscientious practitioner of piano technology. You are probably one of those folks who read this magazine cover to cover, extracting every bit of knowledge you can from its pages.

This *Journal* was at one time my primary and nearly exclusive connection to the Piano Technicians Guild. As such it was invaluable to me, and I devoured every issue as soon as I could get my hands on it. I did the same with many books on piano technology that were available from the various suppliers to our industry. The first one I received ("Piano Tuning and Allied Arts," W. B. White) from Stan Palm, then instructor of piano technology for Macphail Center for The


Arts in Minneapolis. Those books and my collection of past issues of the *Journal* are a great resource for me, and I go back to them frequently.

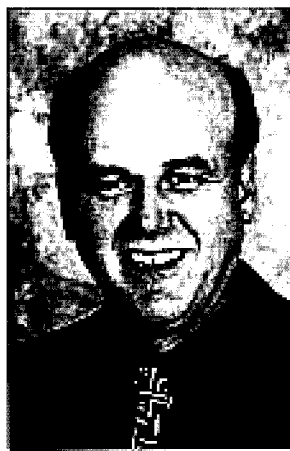
But thankfully, though I still read every *Journal* with the same zeal, and its pages mean more to me since I've gotten to know some of the writers, it is no longer my primary connection to PTG or the wider world of piano technology. It has been replaced with many good friends and valuable advisors who provide so much more than the dry and impersonal technical content of books. My education as a piano technician took a quantum leap

forward when I became directly involved in my local chapter, and PTG as a whole.

So I would encourage anyone who is reading this letter to look for the "Calendar of Events" that is listed in this and every *Journal*, and make the further commitment to your own education by selecting at least one event to attend. If you're having difficulty justifying the expense, just consider what people in other professions will spend on their education. And consider the concept of a continuing education. Industry today will spend record sums of money on continuing education, and it is seen as a budget line item in virtually every progressive company.

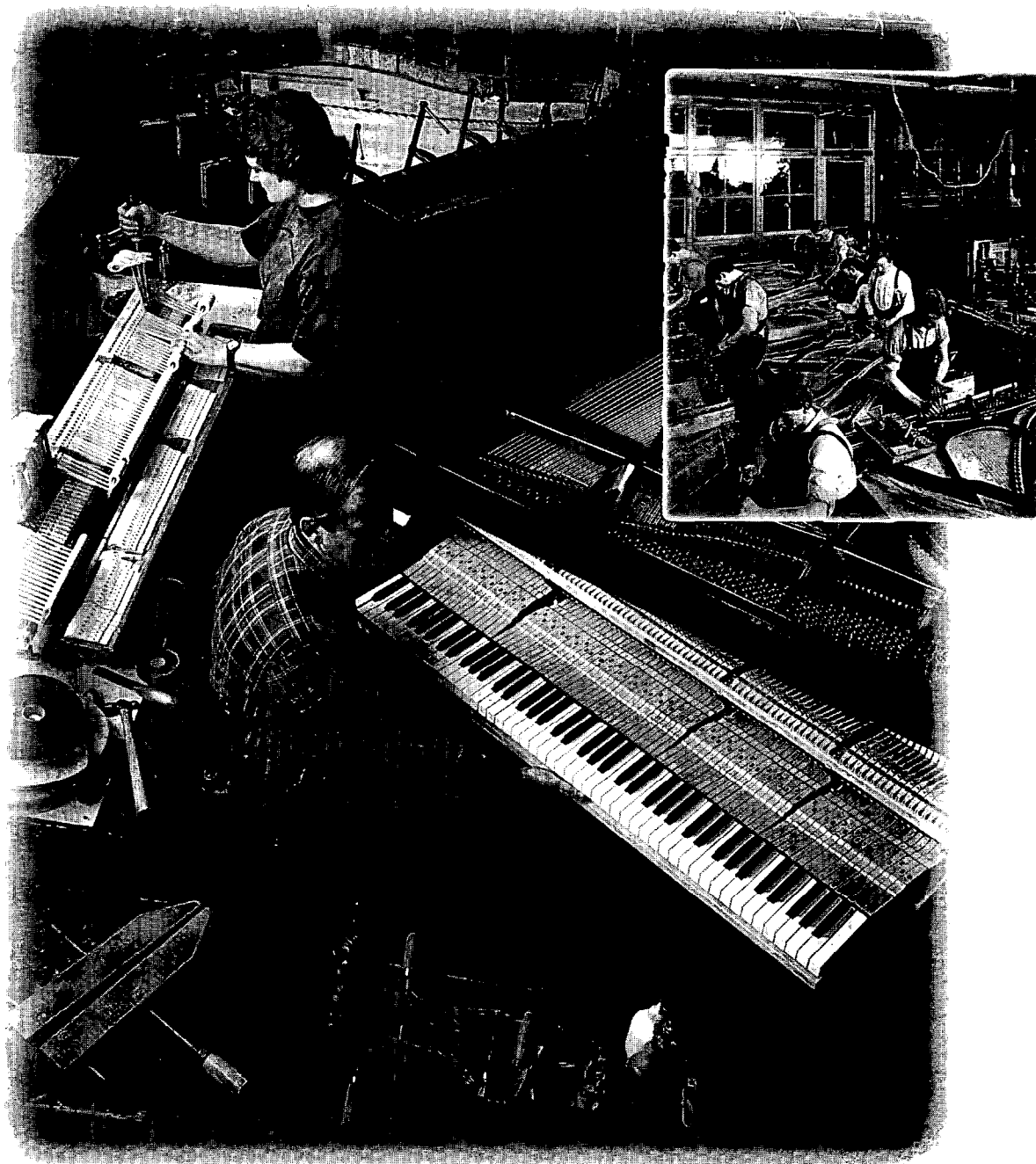
September is National Piano Month, and also the month when the great majority of school children return to their books. The familiar scene of college students moving into dorms and apartments reminds us of the never-ending quest for knowledge, whether the end in mind is a better job, better pay, or even a better understanding of the human condition. So it seems natural that we should have our own education in mind at this time of year.

For piano technicians, the best source of higher education is the Piano Technicians Guild. If you make the commitment to attend a regional seminar or annual convention, I think that you will come to believe as I have, that a full, well rounded education requires a mixture of hands-on experiences and face-to-face dialogue to augment the written word. 



David P. Durben, RPT
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Tips, Tools & Techniques

Let-Off Tip

After your grand regulating rack is adjusted for string height, use the "micrometer," consisting of the two spring-loaded 1/4" bolts on the rack, to adjust the rack for let-off. The usual 1/4" bolt has 20 threads to the inch, so one turn of the nut gives 1/20 of an inch.



1/20" = .050" Thus:

- 1 turn = .050"
- 1 1/4 turn = .0625"
- 1 1/2 turns = .075"
- 2 turns = .100"
- 2 1/2 turns = .125"
- 3 turns = .150"

If you have some other size of bolts, find the threads per inch, do some arithmetic, and use the same idea.

— William A. Theisen, RPT
North Central Wisconsin Chapter

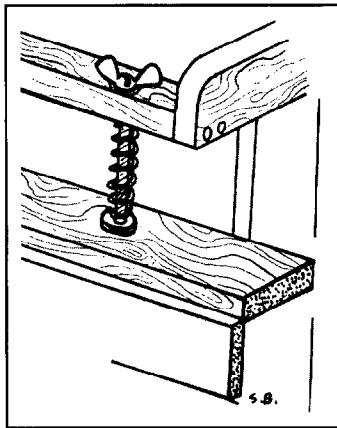


Figure 1 — Grand regulating rack, showing 'micrometer' adjustment bolts.

Pedal Rod Tips

What do you do if you lose a pedal rod or if one or more are missing? Keep several thicknesses and lengths of both brass and steel rod in stock, and should the need arise you are a hacksaw away from solving the problem.



A set of SAE and metric taps and dies would come in handy if the end was threaded, and a selection of wood dowels makes handy material for fabricating the top "nuts" on pedal rods. Be sure to take a file or sandpaper and round off the ends to keep them from rubbing or scraping against the mating surface.

— Bob Bartnik

Reprinted from The Richmond Update, newsletter of the Richmond, VA Chapter

Fitting Hammers to Strings

When filing hammers to fit the strings, first note — by holding the hammer up against the strings and plucking — where you need to remove felt. Then take a soft lead pencil and draw lines across the striking surface of the hammer in the area you will file. While filing, remove the marks where the hammer was too high, and take care to leave the marks where no material needs to be removed. Then re-check by holding the hammer against the strings. This method can help reduce the number of "tries" needed to get a good fit.

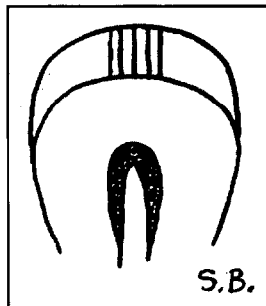


Figure 2 - Pencil lines drawn as guides for filing to fit hammer to strings.

— Bruce Vredevoogd, RPT
Seattle, WA Chapter

Key-Stick Repair

When repairing a particularly weak or repeatedly broken key-stick use a piece of aluminum window screen instead of veneer or business card to achieve greater strength at the glue joint. Spread a layer of five-minute epoxy across the break, about two inches wide, and press the wire mesh into the epoxy with a piece of wax paper. Window screen is just as thin as card stock or veneer, but serves to reinforce the repair in the same way as the iron grates that are embedded in concrete in road construction. Be sure that there is sufficient key clearance on either side before you proceed, as the screen-repaired key-stick cannot be sanded or filed; any further trimming must be done to the adjacent keys.



— Michael Slavin, RPT

Reprinted from NewsLINC, newsletter of the Long Island Nassau Chapter

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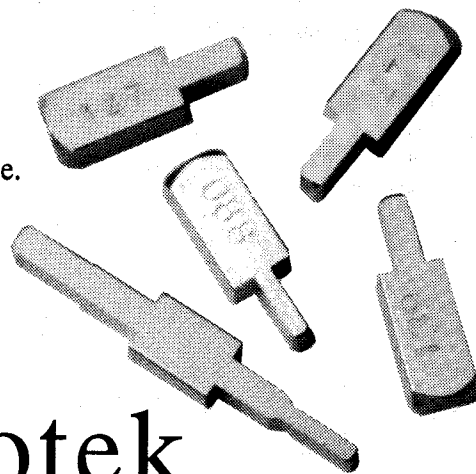
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Q&A/EDITOR'S ROUNDTABLE

Substitute for Methanol?

Q I want to use the methanol and water method for relieving some tight action centers, but I am unable to get methanol around here. Are there any substitutes? What about grain alcohol?

— Chris Olson
Sebastopol, California

A Steve Grattan: Try going to a good old-fashioned pharmacy for the methanol. They will want to know what you are using it for as it can be used in drug production. Also be aware that it can be deadly if ingested or even spilled on your skin as it is easily absorbed. Use with adequate ventilation and eye protection.

A Susan Kline, RPT: Steve, you have just trod *all over* my pet peeve. As you note, methanol is toxic. Go to a liquor store and get grain alcohol (190 proof = 95 percent alcohol). Dilute as desired. "Everclear" is one brand. Works perfectly, and is much, much, *much* safer! Vodka will ease centers just fine if you don't want to bother choosing your dilution.

When using any alcohol on an action, try to keep it away from the butt leather. I have an action from an old Packard here, where the leathers are half the normal width, curled, and hard as rocks from being doused with alcohol. Nothing to do but throw them out and replace every one.

A Roger Jolly: Use 50 percent common rubbing alcohol and water; it will work fine. If you can leave the action for 24 hours, it seems to shrink a little less than using a blow drier — I'm not quite sure why. Perhaps some one wiser than I could enlighten us all.

A Richard Moody: The reason for using heat to dry the wetting solutions is so that it (the solution) doesn't have time to get into the wood and swell. As long as it stays in the wool and the wool gets dried, which makes it shrink, that is what the wetting solutions are supposed to do. When treating the whole action, the best source of heat is from a baseboard register. Cover the action with a blanket. Warm moving air seems to work the fastest. When dry, the action should feel physically warm to touch, also with the action on end you can tell real fast which centers are still sluggish. Except for jacks.... Now you must let it sit for 24 hours to see if the treatment worked.

I have always used denatured alcohol, available in most hardware stores. However, I can think of some advantages to using grain alcohol, but I think it should be at least 100 proof, and even that might have too much water in it. If the denatured alcohol were to be mixed at three parts alcohol to one part water, that would make it around 140 proof.

Bad Kitty

Q I received a call from a distraught client last evening. The family cat had mistaken the grand piano for the litter box. Right there in the center of the soundboard. How would you all suggest that this be dealt with? How do you get the smell out? What might the effect be on the strings?

— Gary Shipe, RPT
Buffalo, NY

A Conrad Hoffsommer, RPT: Calculate for enough time that you can at least restring the puddle area. But since you can't be sure how good an aim the soon-to-be-dear-departed kitty had, a full restringing would probably be prudent. This will also allow you to refinish the soundboard and thoroughly clean anywhere else affected by incontinence.

Reread and heed Susan Kline's advice on safe work around toxic substances.

A Jim Bryant, RPT: Gary, any good cleaning agent in a water solution will get this mess off. Bill Spurlock's soundboard cleaners would make this a fairly simple job. The strings will be a different matter though, as they will corrode, period, wherever they were touched by the subject matter. Cleaning the strings will slow down, but not stop, this process. Unfortunately, cats being the creatures of habit that they are, this one will use this spot again in the future.

A Glenn Contouris: There is a large ammonia product in the cat urine. Go to Wal-Mart or Target and look for a product called "Deodorant™." It is a liquid cleaner which has charcoal in it. It can't do any more harm to the SB than the cat urine already did.

A Zen Reinhardt, RPT: Try a product called "Nature's Miracle™," an enzymatic cleaner. You can get it at just about any pet store now. It's the only stuff I've found to not only deodorize, but also make the spot less "radioactive" (worthy of repeated use according to the cat).

A Rob Kiddell, RPT: A product called Deoderock™ is available in Canadian hardware stores, (I assume because we get everything from the US it should be available there, too). It looks suspiciously like cat litter, gray, and dusty, but it does a good job of stain and odor removal. As for the strings, don't mess around, restring; tune several times; bill accordingly.

Repairing Janssen Back

Q I recently tuned a Janssen console 116331 (1952) and looking down from the top I noticed a split in some parts of the pin block joining or near the frame. I also noticed that the top bolts seemed to go all the way through, so the traditional repair of drilling these all the way through is moot. It looks like a carriage bolt was used, and the head came in from the back, and the nut and a cap nut put in front. (The tuning pin side). I am wondering if this was from the factory.

By coincidence the next week I tuned an Everett console, also from the 50s, and noticed the same thing. The top plate bolts completely through with the threaded end on the tuning pin side. I had never seen this on an Everett, and I used to tune for a dealer who sold them, perhaps it is something I never noticed. The block-to-frame seams were solid in this case.

As far as the cracks in the Janssen, we are watching. I don't see how they can appear with the plate bolts going all the way through. Maybe it's just wood shrinkage, and *not* the pin block trying to pull away? The piano was at pitch. Comments, suggestions?

— Richard Moody
Continued on Page 12

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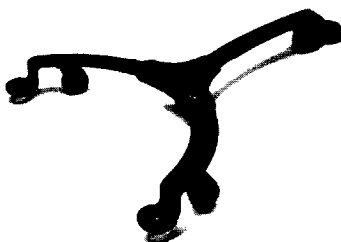
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Q&A/EDITOR'S ROUNDTABLE

Continued from Page 10

A Clyde Hollinger, RPT: Probably. I care for a handful of these and that's the way they are. But I never saw pulling apart there, and used to wonder why *all* piano manufacturers don't put the bolts the whole way through. You've got a puzzler there! I have a 70s studio Everett that has developed a separation, but the bolts are not the whole way through. I was informed earlier they were, and observed this to be so since then.

A Jim Coleman, Sr., RPT: This is a very common problem with the Janssen pianos. They didn't always have the through bolts in the best places and also the back material was softwood and would crush, thereby losing its support for the joints. You will need to put in extra bolts to secure the repair. The Everett used hardwood back assemblies.

A Rob Goodale, RPT: I have observed this problem many times, and have also seen it on a lot of Wurlitzer uprights, particularly those that have the two-piece pinblock (separate section for the bass, butt-jointed at the tenor break). I recently even found a somewhat rare 1950s-era Steinway console doing this, but I would recommend rebuilding and block replacement in that particular case. Typically, I replaced all existing plate screws with carriage bolts by drilling through the back of the piano, but often I have found it necessary to add additional bolts. You simply need to locate areas along the top of the plate where there is some space between the tuning pins and start drilling. It can often be a tight fit, and in some cases you may need to use some thinner bolts (hardened 1/4-20s for example), but if you can fit enough of them you can sometimes pull things together, (or at least improve it). In addition, I also squeeze as much "West System epoxy" (the real thin stuff, #105, Pianotek Supply Co.), as I can get through the crack before tightening things up. It sometimes helps to take the tension off the piano first so that you are not fighting the strings while trying to close the gap. Not exactly a "factory approved" method, I'm sure, but it often works. Good luck.

A Greg Torres: This is what I would do. Let down the tension, pour marine epoxy into the cracks and use higher-grade bolts to pull everything together. You can drill some additional holes all the way through and add a few more bolts. If memory serves me, there weren't many screws or bolts there to begin with in the Janssen consoles and spinets I have seen. Also, you can put the bolts in from the front and use big washers on the backside (to help from crushing and splintering the wood) and tighten everything down. Then cut off any excess with a Dremel™ tool and cut-off wheel. It will look better than having them in the front. Marine epoxy is a good choice as you can pour it into the cracks and have enough time to pull everything together before it sets up. You can get it just about anywhere (Home Depot, Ace Hardware, etc.).

A Carl Root, RPT: Gluing up a separated back is a good excuse for buying a set of clamps. Consider how small the surface area is that is being drawn by carriage bolts, especially since the back surface is probably not a particularly hard wood. Use cauls for each clamp, but leave yourself enough room to drill and install bolts after the clamps have been drawn up tight. I prefer picking up the clamps on a return service call when I do this job in the home.

A David Ilvedson, RPT: It seems to me that since the bolts through are pulling on such a small surface area that the way to go would be to use a 1/4", 2" wide plate running along the back of the piano. The pressure from the bolts would be better distributed.

A Dave Peake, RPT: Another idea is to put the carriage bolt in from the backside, bolt it to the plate side, then install a flat washer, a hex nut, then an acorn nut. Acorns are mainly decorative, not for tightness. It looks a lot more professional, more decorative, and saves time.

Response from Richard Moody:

Thanks to all who provided information. What Dave suggests is actually the way the bolts, (upper at least) were put in – the head from behind, with acorn nuts over the primary nuts in front. Of course the first thing I did was check their tightness, but alas, the bolts turn. At least they are not loose enough to have permitted the splitting. Also, the appearance of the split would make one wonder if it was caused by a pulling-away tension, or improperly seasoned wood. Which leads me to suspect that after the tension is let down and clamps applied, nothing will happen to the crack. Anyhow, what they say about one picture worth 1000 words is true here. This is not the "ordinary" pinblock separation from back.

Since the piano was at pitch, and from out-of-tuneness didn't sound like a split or separating block, and didn't look recent, and if it holds its tune for the next seven years like it did for the last seven ... well, you can see why the client chose the wait-and-see option. ☐

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Letters

Hall of Fame an Honor

Even though I knew my wonderful Chicago Chapter and one other chapter had submitted my name for honors consideration, I did not expect any special recognition this year because I felt others had contributed much more, and some of my teaching was still considered controversial. It was still a wonderful surprise when my award was announced.

I should have stayed home with my wife that week as she was having serious physical problems, and some crucial tests the day I left for Providence. I didn't stay home because of the students I was scheduled to tutor, and because I had promised to do the equal temperament tuning for the Temperament Festival. How glad I am I didn't cancel out, for I would have missed the presentation of the (Hall of Fame) award that I shall greatly cherish the rest of my life.

It was a great honor to be named to the PTG Hall of Fame, and I am most grateful to everyone who had a part in the presentation. I have greatly enjoyed my association with the Guild, and the many wonderful friendships I have made. I still feel I have gained much more from the Guild than I have contributed.

My sincere desire is that in the years ahead I will be able to make a significant contribution to the Guild in the area of education.

— Virgil E. Smith, RPT and M. Mus,
Chicago, IL Chapter

Antique Tuning Kit

Couldn't help but think of that century-old tuning kit featured in the June Journal. It's one thing to hypothesize that the original owner did only tuning and precious little regulating or anything else, but it's another thing to wonder if there might at one time have been more tool kits — one for string replacement, one for minor repairs, and so on. Now really, how many modern-day technicians pack all of their tools in a single satchel? I for one have a separate toolbox for string replacement, another one for heavy-duty regulating and in-home repairs, yet another toolbox for general purpose (non-piano-specific) tools, a box full of plastic boxes that house some supplies, my center-pinning kit, hammer-surgery kit, and the list gets long. The actual tuning kit has only a smattering of regulating and voicing tools, just enough to touch up or tweak something to give the customer a sneak preview on what the possibilities are for the piano.

I well imagine that after I'm dead and gone, my toolboxes will be distributed to a bunch of people, and whoever gets the tuning kit will make certain assumptions, unaware that the tuning kit was one of a set of toolboxes.

— Zen Reinhardt, RPT
Detroit-Windsor Chapter

Regarding the mystery tool in Photo 7 on page 33 of the June issue: maybe that tool was made to hold a replacement string, for the job of replacing a broken string (I'm thinking especially of a loop-end of plain wire). I feel this idea may be on the right track, though not exactly right.

— Channing Bartlett, RPT
Colorado West Chapter

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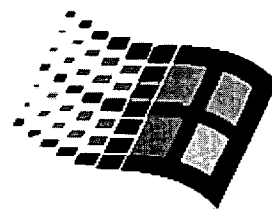
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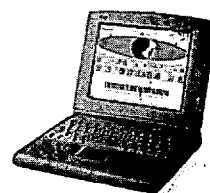
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The Swan's Wing Temperament

By Ed Sutton, RPT
Wichita, KS Chapter

In a temperament, each note is tempered relative to all other notes. Changing one note changes many relationships. If we could imagine all the notes and all their relations, temperament sequences wouldn't be necessary; we would just start anywhere and fix what needed fixing.

Fortunately, there are other ways to tune. It isn't necessary to consider every interval to tune a temperament. If we attend to a few well-chosen intervals, the rest will fall into place automatically. On a piano, each note is tempered in relation to 87 other notes - that makes some 7,656 intervals, if you want to check them all. I prefer to get a few of them "for free."

It is an exciting time to be tuning. You cannot read the *Journals* of the last 20 years, or the discussions on the "pianotech" Internet mailing list without realizing that the knowledge of our craft is a very lively one. No one in this profession needs to be in a rut!

The most important change in the general knowledge of tuning at the end of the 20th century has been the growing awareness that we can do better work by tempering from "larger structures in." The crucial basis for this approach has been the two-octave ladder of major 3rds.

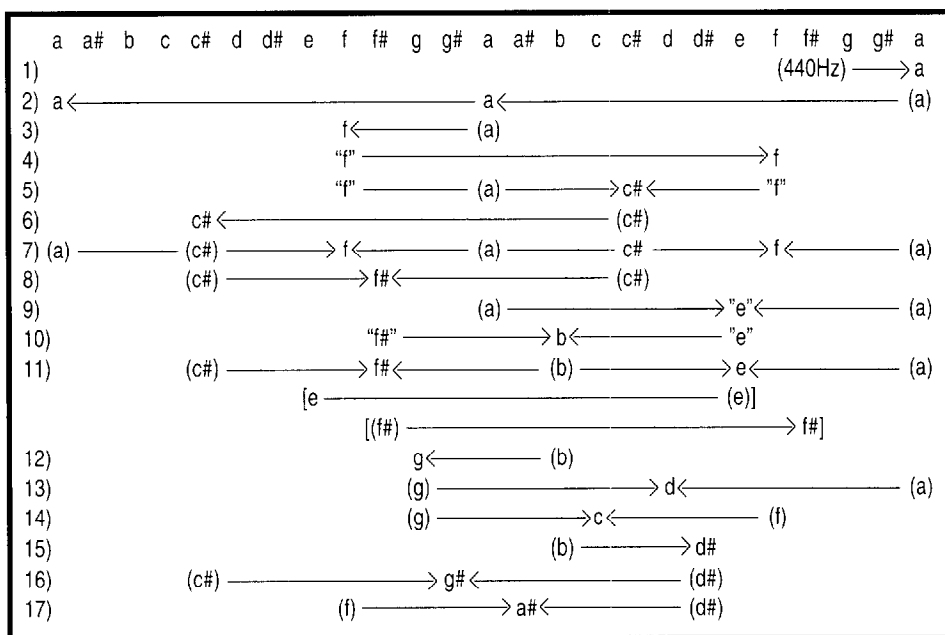
In addition, many technicians and designers have been examining the inharmonic quirks of piano strings in loving detail. We know that, even on the finest pianos, we don't "really" tune equal temperament, but "merely" the best imitation equal temperament we can in the circumstance. We also know that the process of compromising and fitting intervals continues as we tune. We temper our temperament to the entire piano, according to our best musical and acoustic sensibilities. Improvements in small piano design and our understanding of inharmonicity have converged. Small pianos are getting better and our small piano imitation equal temperaments get better and better.

The purpose of this article is (humbly) to try to gather together some of the major threads of late 20th century tuning theory in a way that (hopefully) makes it possible to visualize multiple operant relations within the temperament region for the notes being tuned in such

a way that the temperament is constantly adjusting to the unique situation of the piano. More simply, I'm hoping to pro-

the reference scale.

My temperament written as a sequence:



pose the ultimate listen-to-the-piano temperament in a way that is easy to remember and do.

In particular, I will propose some ways of thinking of the temperament in easy-to-visualize note clusters or lattices that give a "conceptual body" to the compromises we make to tune a temperament. The more we are aware of the multiple and complex relations of a note we are tuning, the more we can hear intelligently. As our perceptions and our conceptions become two ever-more-delicately interconnected aspects of one experience, it becomes easier and easier to advance our skills toward mastery.

The temperament notation I use begins with a base line showing letter names of all the notes of the region to be tuned. A line underneath or above this row shows that it is a reference scale. The note being tuned is written as a plain letter. Notes already tuned and being used as reference pitches are written in parentheses. A temporary reference pitch is written in quotation marks. Arrows point from reference pitches to notes being tuned. I prefer to write tuning sequences going "down" but write clusters "above"

Sequence Description

Refers to diagram above

1) Setting pitch.

2-7) Extended Stebbins procedure for setting 3rds. Here is a slight variation on this technique which can help if you are flustered by a difficult piano: Tune F3 - A3 a little fast, about 8 bps.; tune F3-F4; tune A3-C#4 and C#4-F4 to beat equally. If F3-A3 is faster than the two top 3rds, raise it a tiny amount and repeat the sequence; if it is slower, lower F3 a tiny bit and repeat the sequence. The object is to produce three equal-beating 3rds. Then tune C#3 - C#4 and adjust F3 and F4 to give rising 3rds over the two octaves at 4/5 beat ratios. For a lovely test, play up the ladder as M3/M10: A2-C#3, A2-C#4, C#3-F3, C#3-F4, F3-A3, F3-A4. This should give a very smooth progression.

8,9) Tune as just 3/2 5ths and/or just 4/3 4ths.

10) Split the difference to give equal-beating 4ths (but beating "double time").

11) Split the differences again to give

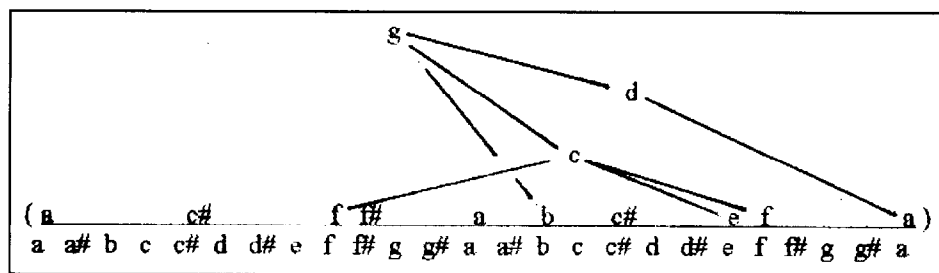
- four equal-beating 4ths.
- 12) At a speed between upper and lower whole-tone neighbors 3rds.
 - 13) Split the difference to get two equal-beating 5ths.
 - 14) Split the difference to get equal-beating 4ths.
 - 15) At a speed between upper and lower whole-tone neighbors 3rds.
 - 16) Split the difference to get two equal-beating 5ths.
 - 17) Split the difference to get two equal-beating 4ths.

The symmetry makes this temperament easy to remember. There are no beat rates to remember. All intervals are tempered relative to the inharmonicity of the piano and your choice of octave sizes. (The sequence can also be used to tune well-temperaments, but that is another article. Maybe a few comments at the end of this article will do.)

Now let's look at what I call "tuning clusters" and see how they can help to visualize the relations of the temperament, and also how they offer many good checks for accuracy.

The first two clusters are the two-octave ladder of 3rds and the octave-and-a-6th ladder of 4ths. If the piano isn't giving clear answers with these as written, you can get a lot more information about the piano by tuning one more 3rd up (A4)→C#5 and by tuning octaves (F#3)→F#4 and E3←(E4). This gives you a chain of contiguous 5ths across the mid-range: A2-E3-B3-F#4-C#5 as well as an extra 3rd to test your 3rds ladder. The 4ths should be virtually equal-beating across this range. The 5ths should be slower than the 4ths, and also virtually equal-beating.

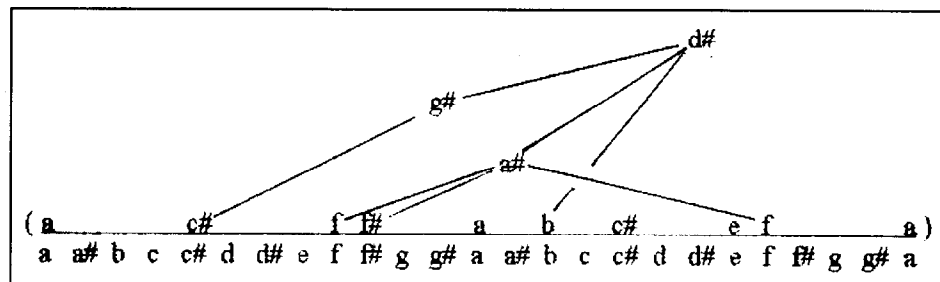
What I call the "natural side cluster" is produced by adding G3, C4 and D4 to the existing structure:



Notice the position of G3 in this pattern. It is the bottom note of two tempered 5ths, and also the bottom note of two tempered 4ths, as well as the bottom note of a tempered 3rd. Tune it as a 3rd, then see if the 5ths and 4ths will fit. The C4 also makes a 5th with F3 and a 3rd

with E4, and the D4 makes a 4th with A3. You can also check the 6th F#3-D4 against F3-C#4. Conceiving of the temperament this way makes a large group of relationships evident. If you're unclear about this, try tuning G3 flat or sharp, and see what happens when you try to fit the 4ths and 5ths into place.

The "sharp side cluster" is a mirror image of the "natural side cluster:"



In this cluster the D#4 is set as a 3rd above B3, and it is the upper note of two contiguous 4ths, F3-A#3-D#4 and two contiguous 5ths, C#3-G#3-D#4. The two intermediate notes also connect as G#3-C#4 (4th) and A#3-F4(5th). They connect to the base line as a 3rd, F#3-A#3 and a 6th, G#3-E4.

I once described these clusters as having the shape of a swan's wings, and noted that where the wings overlap they connect via two 3rds, G#3-C#4 and A#3-D4. In fact, I like that image, so Swan's Wing Temperament it is.

Now, take a deep breath, or two or three, and let's look at the information gathered in one of these "wings." I'm assuming that the 3rds and 4ths ladders are self-evident. Here's what we can tell from the "natural side wing:"

The G3 was located as the bottom note of a major 3rd, mid-speed between its whole tone upper- and lower-neighbor 3rds. The contiguous 5ths must be less than pure, but acceptable and the

force the cluster into further errors, making diagnosis fairly easy. If B3 is sharp, then G3-B3 will be too fast or the contiguous 4ths will be too narrow, as well as the contiguous 5ths, which will be too fast. If B3 is flat, then G3-B3 will be too slow, or the 5ths will be pure, or even wide, and the 4ths will be beating too fast. I'm not going to go through every possible error. Anyone interested can figure

it out, and learn more for the effort, and I fear tar and feathers from those who aren't interested. The fact is that imagining this group of notes this way enables you to consider about ten notes of the temperament area in relation to one another and to adjust them intelligently until you are satisfied with their relationships. In effect it contains a half circle of 4ths and 5ths from B through F on the natural side, with some 3rds to establish your temperament, equal or other.

The "sharp side wing" is a half circle of 4ths and 5ths from B to F on the sharp side. Well-temperament aficionados may find these patterns of interest. Most well-temperaments have A-C# about the same as equal temperament. A little bit of fudging on the F-A 3rd, and pure 4ths C#-F# and F#-B will get you started on something very close to a Vallotti temperament. The rest you can work out yourself!

I first drew up this temperament when I had only been tuning a few weeks. It took me quite a few years to decide I knew what I was doing with it. When Jim Coleman Sr. published the idea of splitting the octave using two pure 5ths, I decided to publish it. It occurs to me that, unlike Jim Coleman Sr., most of us get stuck in a rut fairly early on in our careers, and lose the ability to see familiar material with fresh eyes. I would especially encourage beginning technicians to explore their own ideas about temperaments. There are millions of permutations of a 12-note sequence, not even considering conceptual relationships. There are some great, undiscovered ideas out there. Let's find a few!

contiguous 4ths wide of pure but acceptable. D4 must make a good 4th with A3 and C4 a good 5th with F4, confirming your choice of octaves, A to A and F to F. The C4-E4 3rd must compare well to C#4-F4.

It is easy to see how one error will



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Some Thoughts on the Design of Bass Strings

Part II

Richard M. Brown, RPT
Portland, OR Chapter

Inharmonicity

In Part I, we developed 5 principles guiding tension decisions for wrapped strings. At this point, two of the parameters regarding string design have been fixed: tension and speaking length. A third, the overall string diameter, is closely approximated already, because we know that tension is proportional to 90 percent of the square of the outer diameter. However, a glance at the sketch of bass string construction from Part I reveals additional variables, all given in inches:

d = core diameter; D_1 = diameter of inner wrap for doubly wound strings; L_1 = unwrapped exposed core length between bearing point and start of copper wrap; L_2 = Length that outer wrap protrudes beyond inner wrap for doubly wound strings.

Dr. Sanderson has formulated some elegant equations for wrapped string inharmonicity. Some of you may wish to dust off your *Journal* from July 1998 and December 1988, wherein Rick Baldassin, RPT discusses the relative merits of Dave Roberts vs. Dr. Al Sanderson. As a self-taught programmer of scientific calculators, I can only say that I find Dr. Sanderson's formulae easier to work with, but apparently they are roughly comparable. Having spent hundreds of hours cranking through programs of 400-plus steps and tinkering with various parameters, I have come to the conclusion that the technician needn't bother at all. This will strike some as sacrilege and heresy, but most will be decidedly relieved. Once the technician understands the principles of bass string inharmonicity, decisions regarding actual construction do not depend upon actual calculation of resulting inharmonicity values.

Inharmonicity refers to the deviation of a harmonic frequency from its theoretically perfect value, due to stiffness factors that prevent a string from vibrating with perfect flexibility. In the treble, these harmonics are of comparatively little importance; the fundamental pitch is already quite high, and the partials contribute little to sound quality. Bass strings, being composites of steel and copper, have complex harmonic motions with very audible harmonic frequencies. The greater the inharmonicity, the greater the noise. How many musicians derive any pleasure from a spinet bass string?

Ideally, one would craft a bass string with the lowest possible inharmonicity. Robert Young is credited with the first mathematical model of inharmonicity in plain strings only 45 years ago:

$$B = \frac{Kd^2}{f^2L^4}$$

K = constant (5.3×10^{12}); d = core diameter in inches; f = frequency in Hz; L = speaking length of the string in inches; B = inharmonicity in cents, where a cent is 1/100 of a semitone in Hz.

This formula, a simplification of Young's by McFerrin, shows that:

- Inharmonicity is proportional to the square of the string diameter
- Inharmonicity is inversely proportional to the square of the pitch frequency
- Inharmonicity is inversely proportional to the 4th power of the speaking length.

Translated into everyday language, this means:

- The thicker the string, the greater the inharmonicity
- The lower the pitch, the greater in inharmonicity
- The shorter the string, the greater the inharmonicity.

An ideal bass string thus has a small diameter and long length. Well, we all know that concert grands sound better than spinets. The excellent ductility of copper is the reason why this metal is preferentially chosen to wrap the much stiffer steel core, and we can essentially disregard the contribution of the wrap to total string inharmonicity, for practical purposes. To reduce inharmonicity, we must select the smallest core compatible with required strength at pitch tension.

Klaus Fenner has stated that tone is optimal when the percentage of core breaking point approached (but does not exceed) 70. Dr. Sanderson recommends that this percentage not exceed 66. The most considered argument for limiting the percentage to 66 comes from McFerrin, who utilizes the principle of elastic limit and concludes that this limit is approximately 70 percent of the breaking point. Hence, Dr. Sanderson's limit of 66 percent makes eminently good sense as a rea-

Continued on Next Page

Some Thoughts on the Design of Bass Strings

Continued from Previous Page

sonable margin to prevent string warpage and possible early failure. Using this principle, we can design a theoretically optimal bass string, and never look at an ugly inharmonicity equation again. I'll use some actual computations to illustrate what happens when we vary the exposed core length and the "step" (the distance the outer wrap protrudes beyond the core wrap in doubly wound strings).

First, we may as well agree that there seems to be no compelling reason to complicate our lives by designing strings with different values for exposed core at the agraffe vs. hitch pin. Ditto for the "step." These two simplifications dramatically shorten the Sanderson equations. Is there an optimal value for these two parameters?

Let's consider a singly wound bass string from the note #18 bichord of a model R Baldwin grand:

$N=18$; $d=0.034$ ($14\frac{1}{2}$ G); $D_2=0.099$, $T=176$, $L_s=40.25$ "

The following table shows what happens to inharmonicity (**B**) as we vary L_1 , the length of exposed core at either end of the string:

L_1	B
0.25"	0.057
0.375	0.063
0.50	0.074
0.625	0.091
0.75	0.116
0.875	0.151
1.00	0.195
1.25	0.316
1.50	0.480

The message is clear from the table: to reduce inharmonicity, cover up as much of the core steel as you can. The stringmaker crimps the steel core, flattening it with a hammer blow at the ends of the wrap, to improve "grab" and reduce chance of buzzing. However, the technician wants a perfectly round wire at the bearing point. Designing for 0.50" exposed core is not unreasonable for a practical margin of security and consistency. The difference between 0.25" and 0.50" makes for little difference in "B" value (0.017 cent), and the 0.50" design allows some flexibility for accommodating small measurement errors. One may unwrap a few millimeters of unwanted winding when the string is brought up to pitch; one cannot add winding.

Okay, we'll design our bass strings so that all have exactly half an inch of

exposed unwrapped core at each end of their speaking length. What about the "step"? Unless you're restringing a concert grand, you'll need to design doubly wound strings. Let's take A#1 from a small grand:

$N = 1$; $d = 0.049$; $D_2 = 0.233$;
 $L_s = 48.75$; $L_1 = 0.50$; $T = 200$

The following table compares the computed total inharmonicity when one varies the "step" length:


L_2	B
0.25"	0.172
0.375	0.187
0.50	0.206
0.625	0.229
0.75	0.258
0.875	0.292
1.00	0.331

Inharmonicity decreases as the step length decreases. For practical purposes, it is difficult to find a stringmaker who will give you a bass string with a step length less than $5/8$ ". The important point here is that one wishes to minimize the step length for optimal inharmonicity values, and it would seem prudent to discuss this with the stringmaker at the time one places the order.

We are well on our way to a practical command of bass string design, and have just about completed the inharmonicity analysis. To determine the percentage of breaking point at pitch tension, Dr. Sanderson recommends the following formula:

$$P = \frac{T}{2528d^2}$$

P = Percentage breaking point; T = tension (pounds); d = core diameter (inches).

We know what overall string tension we wish to achieve; we know the speaking length of the string; we can estimate the required overall wrap diameter; we know the length of the unwrapped exposed core and we've negotiated the length of the "step" with our ever-patient stringmaker. All that's left is to specify the core gauge. In keeping with previously discussed principles, we could plug in trial values for core diameter and select that which results in 66 percent breaking point, according to the above formula. This would succeed for the more treble bichords, but we would need to begin compromising as we commenced design of the more bass bichords, which is the subject of the next installment. 



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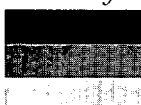
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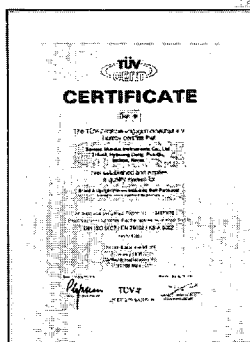
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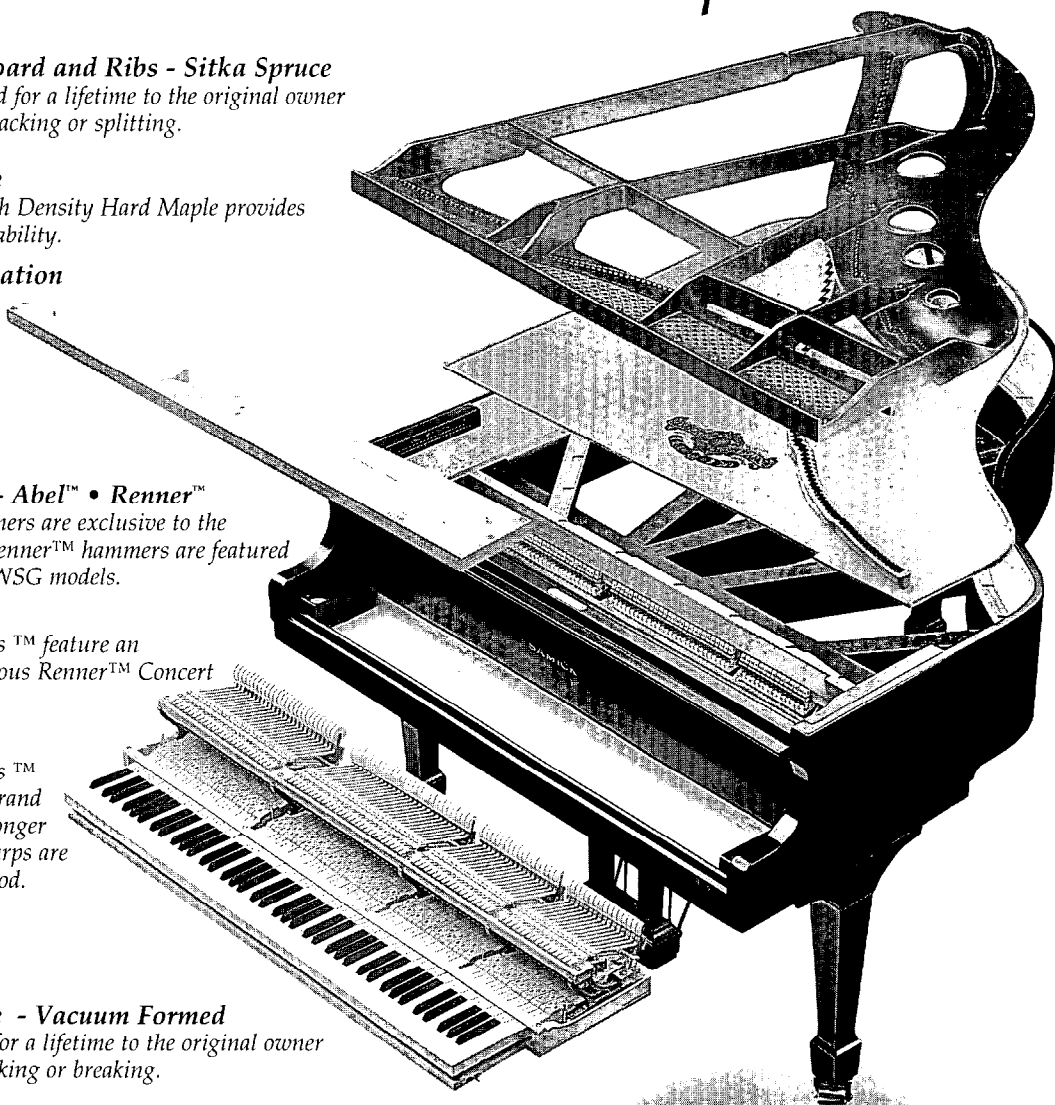
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Trigger Point Self-Massage for Piano Technicians - Part IV

By Clair Davies, RPT
Bluegrass, KY Chapter

Introduction

This month I'd like to describe the techniques I used to fix my agonizing frozen shoulder. The primary muscles involved were the ones that control the rotator cuff – the supraspinatus, infraspinatus, subscapularis, and teres minor – all particularly vulnerable to repetitive strain in piano work. We'll also look at the latissimus dorsi and the three deltoids.

Ironically, despite all that I suffered, my shoulder trouble was one of the best things that ever happened to me because of the outcome – the victory of self-reliance and all that I learned from the experience, which has so dramatically changed my life. I went from depression and abject misery to a state of pure enthusiasm and excitement as I got further and further into the Travell and Simons books, learning about the phenomena of trigger points and referred pain. A friend vividly remembers me arriving at her house one gorgeous October evening, coming in the door laughing and shouting excitedly, "I found another one, I found another one!"

That muscle, the coracobrachialis, a small slender one situated between the biceps and triceps, halfway up the inside of the upper arm, was the last of the troublemakers that I had succeeded in finding. I still had had some residual pain in the outside of my shoulder and all the way down my arm, even though I had found and killed trigger points in approximately 20 other muscles. The coracobrachialis was the lone holdout, a surprise discovery – I hadn't known it existed – and I was overwhelmed with joy. Working it had finally left me completely free of pain for the first time in months.

The Subscapularis: An Important Muscle

Looking back to the beginning of my difficulty, before I knew anything about the technology of pain, I remember being entirely focused on my deltoids, because that's where I felt the pain. I had no notion that the pain might be coming from somewhere else. I believe now that my subscapularis was the muscle originally strained by the snowshoveling. The other muscles of the shoulder were then recruited to compensate for the dysfunctional subscapularis, and consequently were themselves put under excessive strain and, one by one, developed trigger points of their own.

The subscapularis covers the underside of the scapula, lying sandwiched between the scapula and the ribs and is ordinarily quite impossible to reach. I imagine few people suspect they even have a subscapularis. But it's actually a sizable muscle, being about the thickness of the lateral deltoid. It's a hardworking muscle, primarily responsible for all actions that call for rotating the arm inward. One such

action is the motion used in serving the ball in tennis. Another is when you push yourself up out of a chair. Or when swimming. Or when pulling on the tuning hammer when using the overhand grip on an upright. Or when trying to crawl on hands and knees out from under a grand piano. None of these maneuvers can be done with a bad subscapularis without excruciating pain.

The hard fact is that trouble in the subscapularis is at the heart of virtually all shoulder problems, and it simply must be dealt with. Nevertheless, it's rare to find anyone in the healthcare community who is aware of the importance of this muscle. And, although professional massage therapists usually are very familiar with it, surprisingly few feel comfortable with treating it, because it seems invasive. The muscle is made for a do-it-yourselfer.

Fortunately, the scapula is one of the most mobile bones in the body. It attaches directly to only one other bone, the clavicle, and hangs in a kind of sling of muscle suspended from the cervical and upper thoracic vertebrae that enables the arm to travel a full 360-degree circle. This freedom makes it possible to position the scapula in a way that permits access to a good part of the subscapularis.

Sitting forward with the bad arm hanging down between your legs, the scapula is pulled forward enough to expose part of its underside. Insert your opposite hand deep into your armpit with the fingers together and held flat like a slab. With the flats of the fingers firmly against the ribs, the ends of the fingers bump right into the subscapularis. (See Figure 1.) An alternative position is with the bad arm crossed in front and the hand on the opposite shoulder. (See Figure 2.)

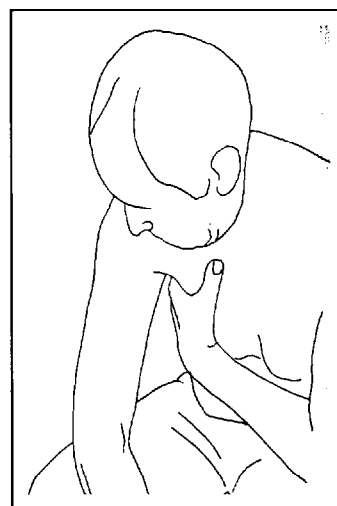


Figure 1 - Locating subscapularis muscle for massage.

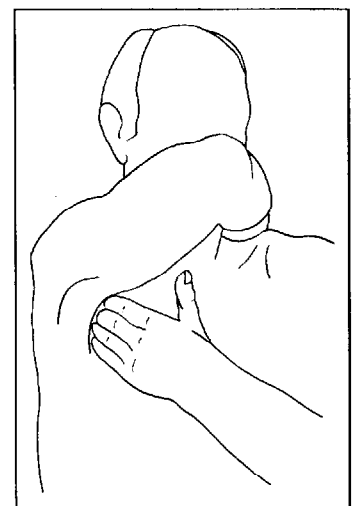


Figure 2 - Alternate method for massage of subscapularis.

The first time you touch the subscapularis muscle you will probably find it hurts like nothing you've ever felt before, something you want to stop and never do it again. Ignore the pain for a moment if you can and rotate the arm inward. This is the subscapularis' essential action and you should feel it contract and bulge up under your fingers. A

healthy subscapularis will not hurt when you touch it or push on it. Pain indicates that the muscle has trigger points and needs to be massaged. Its referred pain is felt behind the shoulder and down the triceps, with a dull ache in the back of the wrist. This particular kind of wrist pain is a virtual signature of subscapularis trigger points.

Trigger points in the subscapularis also weaken it. In the shoulder, this is a most crucial and dangerous effect, because one of the jobs of the subscapularis is to help keep the head of the humerus (the ball) firmly in the glenoid fossa (the socket) during all the various movements of the arm. A subscapularis weakened by trigger points is the main culprit in allowing the head of the humerus to jam against the acromion (the shelf of bone on top of the shoulder) when the arm is raised. Clicks and sharp pain in the shoulder joint are evidence of a chronically contracted, shortened and weak subscapularis.

When the ball-and-socket joint isn't kept solidly together by the rotator cuff muscles, of which the subscapularis is only one, the joint can be damaged. The eventual outcome can be bursitis, arthritis, tendinitis and deterioration of bone and cartilage. Although a certain allowance should be made for the possible reality of these frequently diagnosed and greatly feared conditions, it's vital to understand that the original cause of the trouble is in the rotator muscles themselves. If the trigger points aren't eliminated, there can be little progress with the healing of whatever other conditions that may exist.

Self-Massage of the Subscapularis

In order to self-administer enough massage to deactivate the trigger points in the subscapularis, you have to be able to tolerate some bit of discomfort. You really don't have to be a masochist, brutally inflicting unbearable pain on yourself, but enough pressure must be used in order to get the blood and lymph circulating again. I can't think of a more apt instance of the adage, "no pain, no gain." But the pain doesn't last long. With my original shoulder disability, I had to work the subscapularis only a week or ten days before it was healthy enough to stop referring pain and hurting when I massaged it.

To work trigger points in the subscapularis, stroke the muscle first one way and then another with the tips of the fingers exerting as much pressure as you can stand. Fifteen or 20 seconds of this several times a day soon makes the pain subside. I don't expect ever to have a shoulder crisis again, because I keep watch on my subscapularis muscles and give them a little maintenance whenever I find them sensitive to the touch. Pain behind my shoulder or in the back of my wrist is a dead giveaway that this important muscle is acting up.

Other Rotator Cuff Muscles

The other three rotator cuff muscles are the supraspinatus, which initiates upward movement of the arm, and the infraspinatus and teres minor, which work together to rotate the arm outward. All four rotators attach to the ball of the humerus and to their own respective places on the shoulder blade. They all must be healthy, strong and stretchable in order to work together to efficiently turn and control the ball of the humerus. Weakness or tightness in any of the four creates an imbalance of force that immedi-

ately begins to make problems. Usually, when trouble comes, all four fall like dominoes, all ending up with trigger points and in a shortened, stiff and weakened state.

Self-Massage of the Supraspinatus

Trigger points in supraspinatus, infraspinatus and teres minor are treated with both ischemic compression and stripping massage. As its name indicates, the supraspinatus is anchored above the spine of the scapula in the triangular shaped space called the superior angle of the scapula. (See Figure 3.) The supraspinatus is a thick little muscle and is buried under a layer of trapezius muscle, so considerable force must be used to get down into the belly of it. Clawed fingers work here. (See Figure 4.) Even better is the Theracane™ if it is carefully placed. Yet another way to get to the supraspinatus is to have someone stand behind you while you're seated in a chair and press down into it with a supported thumb.

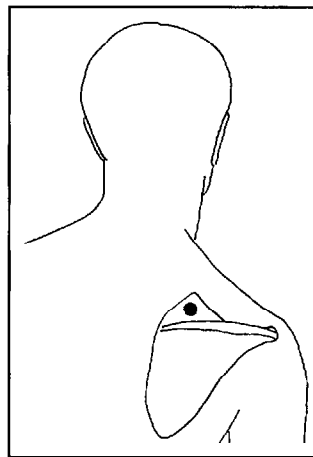


Figure 3 - Location of supraspinatus muscle.

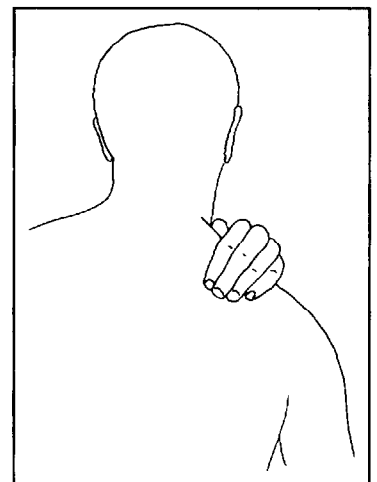


Figure 4 - Massaging supraspinatus with clawed fingers.

The supraspinatus' pattern of referred pain includes the outer deltoid and the lateral epicondyle of the humerus (the outer side of the elbow). This last symptom, commonly called tennis elbow, is rarely a genuine elbow injury, usually

consisting simply of pain referred from the supraspinatus or from hand and finger extensors in the forearm. Piano tuning, which requires the arm to be held up and out for long periods, is especially bad for the supraspinatus. Carrying a heavy tool case all over town with the tuning arm is even worse.

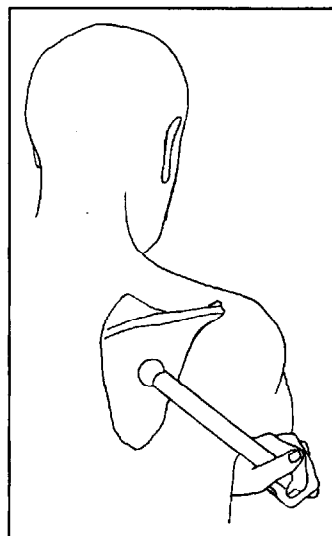


Figure 5 - Massaging infraspinatus with Theracane™.

Self-massage of the Infraspinatus

The infraspinatus covers all of the outer surface of the scapula below its spine. The Theracane™ is a good

Continued on Next Page

Trigger Point Self-Massage

Continued from Previous Page

tool here (See Figure 5.), but a tennis ball or handball also work well when placed on the bed under the shoulder blade and rolled around on. A handball, used in this way, gives a wonderful massage. (See Figure 6.) Pain from the infraspinatus is referred to the front and side of the shoulder and to the inner edge of the scapula. The infraspinatus is put under terrific strain by tuning upright pianos with the underhand grip with the elbow down and the forearm vertical. Any movement to add tension to the string, especially when jerking the hammer during a pitch raise, requires vigorous lateral rotation of the arm, which is the main action of the infraspinatus.

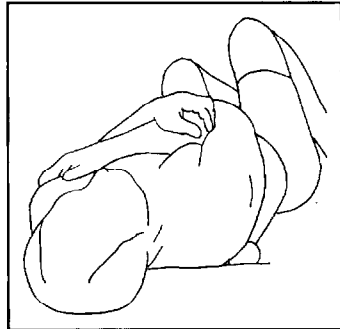
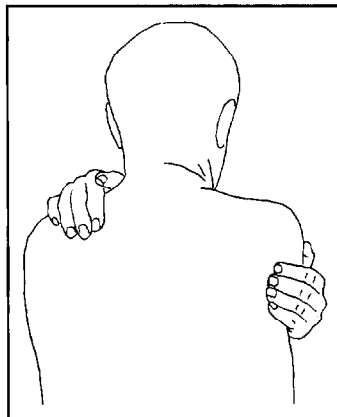
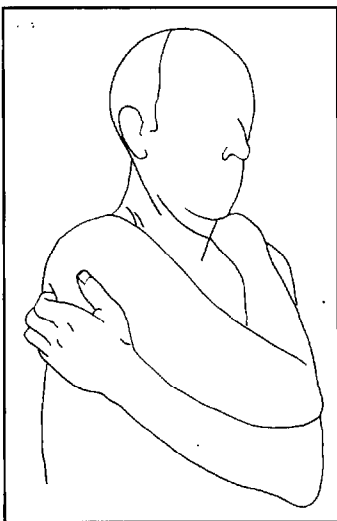


Figure 6 - Massaging infraspinatus with handball.

Self-massage of the Teres Minor

The last rotator, the teres minor, attaches about halfway up the outer edge of the scapula and continues upward in a diagonal direction toward the ball of the shoulder. Part of it is hidden beneath the posterior deltoid muscle, but its primary trigger point is easily accessible just an inch or two lateral to the infraspinatus trigger points. The edge of the scapula is the guide to locating this muscle. Pain from the teres minor usually focuses in the posterior deltoid. An effective method of pulling the scapula forward and making both the infraspinatus and teres minor accessible is by reaching the bad arm across the chest and placing the hand on the opposite shoulder. Then by going under the arm, the clawed fingers of the opposite hand can touch both muscles without great effort. (See Figures 7 and 8.)



Figures 7 (LEFT) — Massaging teres minor muscle with clawed fingers of left hand. Figures 8 (ABOVE) — Massaging teres minor, back view.

Other Shoulder Muscles

When the shoulder is bad, trigger points will also be found in a variety of places in the anterior, lateral and posterior deltoid muscles. Referred pain is not an issue with


these muscles and the painful sites themselves are the places to be massaged. Keep in mind though to massage the deltoids last, for most of their discomfort is pain referred from other muscles.

The two remaining muscles that are importantly involved in the operations of the shoulder are the teres major and the latissimus dorsi. The teres major anchors to the bottom lateral edge of the scapula and connects at its upper end with the latissimus tendon to attach to the inner side of the humerus just below its top. These muscles pull the arm down and back and contribute to internal rotation. Their common trigger point makes the back of the shoulder hurt and is found in the thick wad of muscle right where they join the arm at the back of the arm pit. Effective treatment is simply to squeeze this place between the thumb and fingertips. As with all other muscles, the idea is to repeatedly press the blood and fluids from the exquisitely tender area of the trigger point. The body itself does all the healing, but this kind of manual encouragement is indispensable in getting it started.

For Additional Information

If you haven't bought the Travell and Simons books yet, I'd encourage you to think about it again, particularly if you have serious, ongoing pain. As a resource, these books can't be matched. They contain so much more in the way of information and illustration than can possibly be printed in the *Journal*. Travell and Simons actually don't go into specific massage techniques per se, being oriented more toward quicker office methods, such as injecting the muscle with Procain or carefully controlled stretching. Their success with stretching depends on the use of ice to briefly chill the skin to distract the nerves in the muscle while it is being stretched. Great care is taken never to cool the muscle itself by immediately applying moist hot packs between each in a series of conservative stretches. Massage is by far the most careful approach, however, and is the only treatment that can be effectively self-administered.

As I have said, fixing my original shoulder problem involved deactivating trigger points in more than 20 muscles in and around the shoulder. I'm convinced that any piano technician with a similar problem can do the same thing. You don't get to be a good piano technician without a mechanical gift and the ability to tackle challenging and sometimes puzzling tasks. It makes sense to me that this "new technology" is perfectly suited to this particular population. You don't have to live with shoulder pain, and you don't have to wait for someone else to fix it.

Next month, we'll look at the muscles of the chest and stomach, the paradoxical source of many back problems. 

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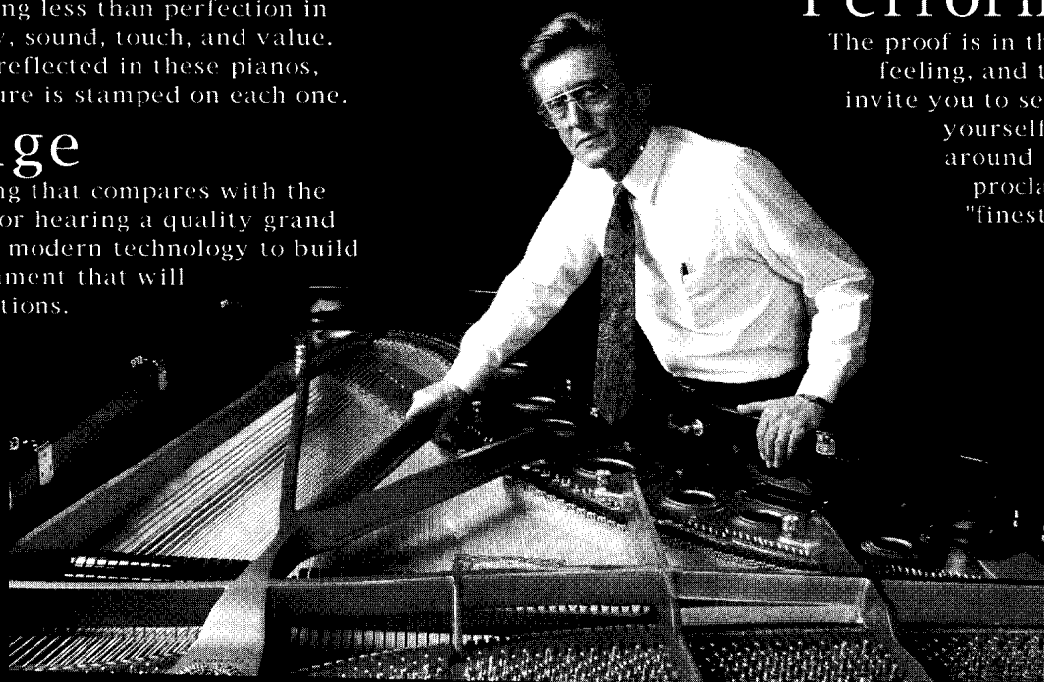
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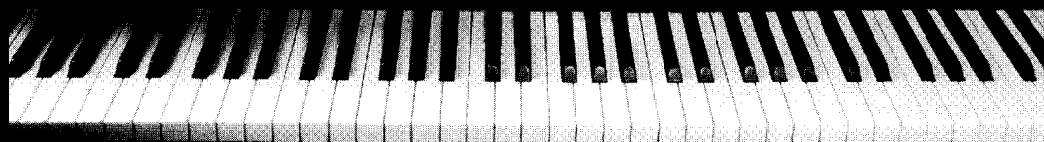
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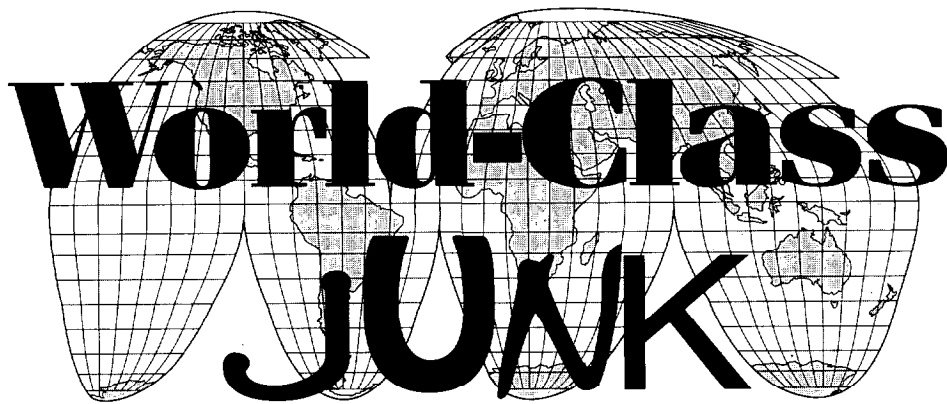
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World-Class JUNK

By Susan Kline, RPT
Eugene, OR Chapter

We the Willing

I recently came across the following statement. I do not know the original source.

"We the willing, led by the unknowing, are doing the impossible for the ungrateful. We have done so much for so long, with so little, we are now qualified to do anything with nothing."

This article will touch on a lot of these ideas: how to limit ourselves to the possible; how to prevent ingratitude (if it can be prevented); how to do a lot with a little; and whether to do it for a long time. To summarize, this is about the allocation of time and resources.

Piano work is a wonderfully flexible way to make a living. I'm going to describe the work patterns I have gradually acquired, which suit my circumstances and time of life. They won't suit everyone, and that's just fine. We all need to find our own ways to balance time, money, and the indefinable quality which I can only call heart. One might say that heart is the "music" of the profession, which can make it a little easier to get out of bed in the morning.

As usual, I'll deal with "lesser pianos" as I talk about decisions that must be made. Many of us, willingly or simply by necessity, will spend most of our working lives on them. Whatever our wishes, for most of us they won't go away. I submit that, to paraphrase the old British police maxim, we "might as well come quiet, like."

Approached with a willing spirit, junk can offer unique compensations. Getting these "objects" working well within stringent limitations can be a minor art form, a game. Do what "can't be done," and do it well. Surprise everyone; be a hero, and stay fiscally solvent as well. The constant spur to our

ingenuity can improve all our piano work.

I remember a day when I was a heroine. The piano was a cheap console, but it wasn't cheap to the young couple who owned it. It had been bought with a legacy from her grandmother. He was a minister, and they had moved several times. He had carefully wrapped the piano in moving blankets and loaded it onto the rented truck himself with a dolly. One day a helper had a lapse of attention, and one wheel of the dolly missed the ramp. In the fall, the left side of the piano came loose, and the keybed shifted so that the action no longer lined up with the strings. They lived outside my area, but no one else would touch the job. A store owner who was also a technician had offered to take the piano in trade toward a new one, but the price was totally beyond their means.

It took me two visits to fix it – partly because of inexperience with major structural damage. I tilted the piano, and removed the screws holding in the keybed, and tried to shift it. It stubbornly resisted. It took me a long time to notice that during the accident, the screw going through the plate lug into the bottom of the keybed had sheared off, and the stub had hung up on the side of the lug. Meanwhile the young wife, watching me sweat and struggle, feeling hope returning where all had been forlorn, was witnessing and praying without ceasing. As a light finally gleamed in my confused thoughts, I hacksawed through the stub of the screw, and the keybed sprang back to where it belonged. I glued back the left side of the piano using long pipe clamps, and replaced some bent screws in the bottom board. I reattached the keybed, untilted, bent the action posts

back to where they belonged, did minor regulation, and tuned. No one was ungrateful that day!

I could have made more money with straight tuning, but the learning was worth a lot, the good feelings could never be bought with any amount of cash, and a piano was returned to a useful life. So which was more practical, avoiding that job or taking it on?

A Few Principles

Doing work such as this, outside your comfort zone and with unknown results, carries some risk. Being risk-averse, I've gradually fallen into some habits, which one might dignify by the name of principles. They were in full force when I took on that unlucky console.

1. (This is the most important.) **Don't promise success!** From the very first phone call I said that I didn't know if I could fix their piano. All I said was that I would try.
2. Have terms of payment worked out and clearly understood. In this case, we had agreed upon a very modest sum if I failed, and a larger (but not all that huge) amount if I succeeded. I truly despise taking money when I have failed to make an improvement, and I also dislike not sticking by an estimate. I can easily imagine others seeing this differently, since most of us do need to make a living, and we have different commitments and demands on our income. However, sticking to an estimate through thick and thin does tend to make one look at jobs more carefully. One method I've hit upon is estimating quite a bit higher than I think I should (knowing that I tend to underquote), and telling the owners that if

everything is easier than expected I will charge less. Sometimes I am able to come in under estimate, but often the job was a lot harder than it looked at first, and I needed the safety margin. Another system I use is to guess about how long I will need to finish the work, and then quote an hourly rate for it. However, I put an upper limit on the fee, so the owner has some safety. This limit pressures me to estimate realistically and work efficiently.

3. I shy away from taking on any repair job which will cost more than it will increase the value of the piano. Sometimes the owners have sentimental attachments to the piano which override practicality, but I make them work hard to convince me of that. The cheap console, of course, passed this test with ease. It was worth almost nothing when they called me, had regained most of its value once repaired, and was of tremendous sentimental importance.
4. I have to feel that I have at least a reasonable chance of success in taking on a project. I try to remember when I am tempted to fix one of these "hopeless" pianos that my aim is to practice the "art of the possible." I also need to feel that I'm the best person to do the job. For the console, I was the only person who would take on the job, so this wasn't an issue.
5. I've found that the best way to avoid doing "the impossible for the ungrateful" is to explain what I'm doing and why. This is one reason (among several others) to have my customer in the house with me as I'm working if at all possible – the effort shows. Besides, I like for people to understand their pianos a little better. With the console, the wife was a fascinated observer every minute that I was there.

Applying Principles

A while back I was asked this question: "What do you do when you go to tune a piano, and during the tuning the piano begins to disintegrate before your eyes? How do you balance what you know is the correct – but expensive – procedure, with the single mother who only has \$250, or \$150, or \$50, to spend on the piano so little Johnny can take lessons?"

A few answers were obvious. First of all, I stop tuning, and try to figure out the reasons for the disintegration. When I feel I understand the problem, I find (or phone) the customer. Once again, having the customer in the home during the first visit helps tremendously, and is well worth the struggle to find an appointment time. Then I show and explain the problem, and we talk about alternatives. If a reasonable one can be found, and the price is acceptable, I resume work.

Most of the time, some solution can be found, the rest of the time – life can be like that. At least the hapless owner clearly understands the problem and options. When forced to "condemn" a piano, I also try to find some reasonable course of action for the owner. We talk about ways to get rid of the hopeless piano and possible sources for a replacement. Possibly the near-deceased object is good enough to donate to Goodwill or the Salvation Army, or maybe the plate is broken right through but the

case has some fine panels and carving that a woodworker might use. Sometimes a sturdy bench is worth more than the piano, and I tell the owner how much to ask for it. I've been known to talk to people about how to dismantle a piano safely, and how much firewood it contains. Some common but pretty bird-cage pianos, which are no longer musical instruments, might find a place of rest in a county museum.

Looking at the question more deeply, more subtle ideas appear. We are confronted with a shortfall, where the money won't reach far enough to satisfy a tuner's ideas of correct procedure. Somewhere, something's got to give, and we don't want it to be quality of workmanship. As the question implies, it is a balancing act. On one pan of the scale is the need to make a living. On the other is the sick piano and the impoverished but deserving mother, with the son who is a bundle of unknown possibilities. This story has great appeal. Many good (and possibly even a few great) pianists got a start on the humblest of spinets. By keeping the wretched things working we may be aiding the viability of the piano as a whole.

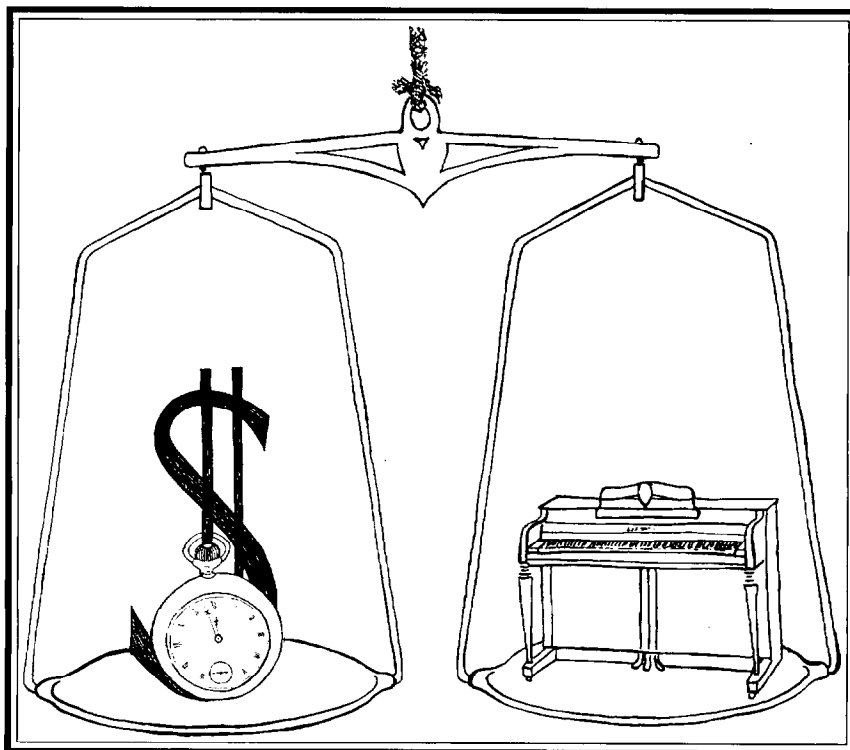
Three Approaches to the Dilemma

1. Find a good but cheap way to solve the problem! I've tried to put a few of these in my articles, and I am always on the lookout for more. New materials often allow faster

and thus cheaper repairs. Epoxy for bridges, CA glue for loose tuning pins, and CA glue for loose keytops come to mind. It must be borne in mind, however, that new materials have not been completely investigated. Not so very many years ago a writer in the *Journal* recommended using WD-40™ to free up sluggish actions, with disastrous long-term results.

There is another problem with this quick approach: sometimes there is no good, cheap way. If I find

Continued on Next Page



World-Class Junk

Continued from Previous Page

- breaking plastic jacks and damper flanges, I will not fix one at a time, because another will break a little later. I must advise the owner to postpone repairs until they can afford to pay for complete replacement. Also, some pianos, whatever their present condition, are so inherently worthy that they deserve nothing but the best. I try very hard to do nothing to such pianos which might harm them or make them harder to restore in the future.
2. Examine the sentimental story with a dispassionate eye. Is the mother really without money? Is the son really interested in taking piano lessons? I remember falling head over heels for a story like this: it featured a single mother whose daughter had just won a prize for composition and was studying with a friend of mine. Their old upright was unplayable. I knocked myself out getting a tired upright up to snuff for her, while keeping the price rock-bottom. When the time came for them to buy the piano, the mother told me that she had just asked her daughter to make a commitment to practice the piano. The daughter said that she was more interested in sports, and didn't want to bother with playing the piano at all!
 3. The simplest answer of all: if you are sure that the customer is deserving but poor, and there is no simple, inexpensive solution, just do the essential work anyway, but charge only what the customer can pay. A lawyer would call this pro bono work. It is a luxury, but sometimes we need a few luxuries. It can be a refreshing chance to escape the tyranny of the almighty dollar and the eternally ticking time-clock. "You say I can't afford to fix this piano for this nice lady? Just watch me!" (I think that a lot of us do this sort of thing from time to time, but we don't talk about it much, as we shouldn't.)


Lightening Up

Not all time and money decisions are harrowing. Here are a few more of my approaches:

- I keep my fee high enough that I can include minor extras without

having to quote and charge for them. This has a side benefit: by not having the lowest fee in my region, I avoid having to work for people who call around to get the very lowest price. I find that they are often annoying, inconsiderate and unrewarding clients. I am happy to leave them to someone hungrier than I am.

- I don't offer discounts. Some of the people demanding discounts have far more money than I do. Also, if some people get discounts just because they make a fuss, it's unfair to the others. Some people have very good success offering discounts for booking ahead. I've thought of doing this but never felt like putting in the time and effort to make it work.
- I stick to my normal fee even for poor clients. However, if I find a shambles when I come to tune and money seems to be a problem, I'll do a generous tuning's worth of work on whatever it needs the worst, and maybe only rough in the tuning. That is, I try to get the money to reach as far as possible.
- If I come to tune a piano and find that the previous tuning is still immaculate, I look for and tune any bad unisons, and charge for a touchup rather than a full tuning. I then recommend a longer interval, though I add, "call me sooner if it bothers you." I feel that I have better things to do with my life than tuning pianos that are already in tune. This northwestern climate is very kind to pianos, and tunings often hold well. I realize that in many parts of the country pianos need all the tuning they can get.
- I come and look at a piano before I make any pronouncements about major work. This reminds me of a horror story: A teacher here, with a lovely big Mason & Hamlin upright, called a tuner in a nearby city complaining about three notes which weren't working in the middle register. They were middle C and the two neighboring notes. She said that the tuner told her, over the phone and sight unseen – that her upright was worn out and would take \$1,000 to rebuild. She taught with the notes not working for six months before she found me, since, as she said, "I didn't have \$1,000." One hammer shank later all was well.

- As time passes, my business evolves. While I enjoy the variety of a general practice, trying to solve every problem that gets thrown at me, it is nowhere written that I am required to take on every challenge. I stopped tuning square grands when my back acted up, and have recently decided that pneumatic players with the action still in and working can be left to younger, stronger, and more determined people. I've tuned all of them that came my way for 20 years, and I feel that I have done my time. Birdcage pianos, on the other hand, are not that hard, so I'll tune them if they are playable. In the fields of action work, concert tuning, and voicing, I continue to grow. I love this work, and by allowing my business to reflect who I am and what I can and can't do I hope to continue it for a long, long time. 

Continued from Page 29

Solution to Puzzler #11

— Reading Matter

1. Chickering; 2. Young Chang; 3. Baldwin; 4. Everett; 5. Knabe; 6. Mason & Hamlin; 7. Estey; 8. Baldwin; 9. Samick; 10. Lester; 11. Kimball; 12. Knight; 13. Winter; 14. Kohler & Campbell; 15. Kranich & Bach; 16. Kohler & Campbell; 17. Janssen; 18. Steinway; 19. Hardman (minipiano); 20. Chickering; 21. Kawai; 22. Baldwin; 23. Yamaha; 24. Everett; 25. Janssen; 26. Wurlitzer (by Baldwin); 27. Mason & Hamlin; 28. Baldwin (Acrosonic); 29. Baldwin; 30. Yamaha; 31. Blüthner; 32. Petrof; 33. Kawai; 34. Estey; 35. Steinway; 36. Kawai; 37. Plate; 38. hammer rest rail; 39. grand key stop rail; 40. key; if you said hammer or wippen, that will pass as well; 41. vertical hammer head; 42. Plate; 43., 44., 45. bridge, plate webbing, and plate hitch pin area.

Same-Day Differences in Humidity Levels

By Bob Mair, President
Dampp-Chaser Corporation

Ward Guthrie of the Montana Chapter provides the following information on humidity levels in

moisture during cold periods would be candidates for rapid deterioration of wall structures.

during this period. The number of bars represents the number of homes Ward checked each of these days.

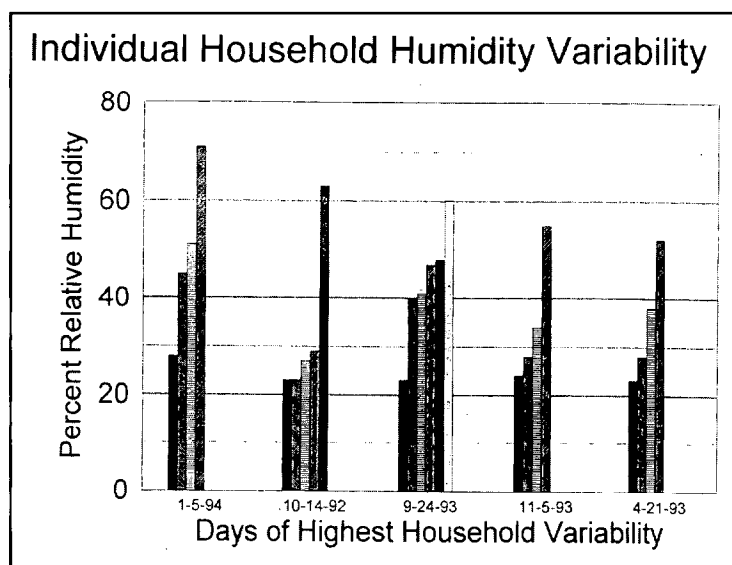


Chart 1 - Individual Household Humidity Variability.

some of the homes in which he provides piano service. Not only does this provide further evidence of the degree of humidity fluctuation from time period to time period, but it also shows that there are significant differences from home to home within the same period and even within the same day.

Ward describes Montana as being very cold during the winter with home heating requirements that produce very low humidity levels. However, there is evidence that during the period Ward studied, more than several homes appeared to be sufficiently humid that the pianos would not have required additional moisture. Certainly it would be worthwhile to monitor these frequently to see if the humidity remained at the points noted. On the negative side, however, it would be my guess that homes with this much

humidity, and the next home on that same day had 23 percent humidity. More dramatic is January 5, 1994,


when two homes had humidity levels of 72 percent and 27 percent on the same day! That's a difference of 45 percent between two homes in the same town on the same day.

Chart 1 shows these differences for the five days with the greatest variability between homes

As you can't judge a book by its cover, you also can't judge home humidity levels entirely by the section of the country in which they are located.

Ward points out the dramatic difference between houses on the same day. On October 14, 1992, one home had 63 percent

One might argue that time of day could produce a significant difference and I would agree if the readings were taken outside. In this situation though, the buffering effect of the home structure negates the effect of outside swings produced by temperature changes occurring throughout the day.

What Ward is showing in Chart 2 is simply the monthly average humidity level for the 600 homes in the study. He has used an "Airguide™" Model 2208 hygrometer to record the humidity that he has read one hour or more after coming into the home. Since the lowest reading that can be read with the Airguide is 24 percent, Ward used 23 percent on all readings registering below 24 percent. This has caused the average to be skewed toward higher levels much more so in the winter than in the summer. 

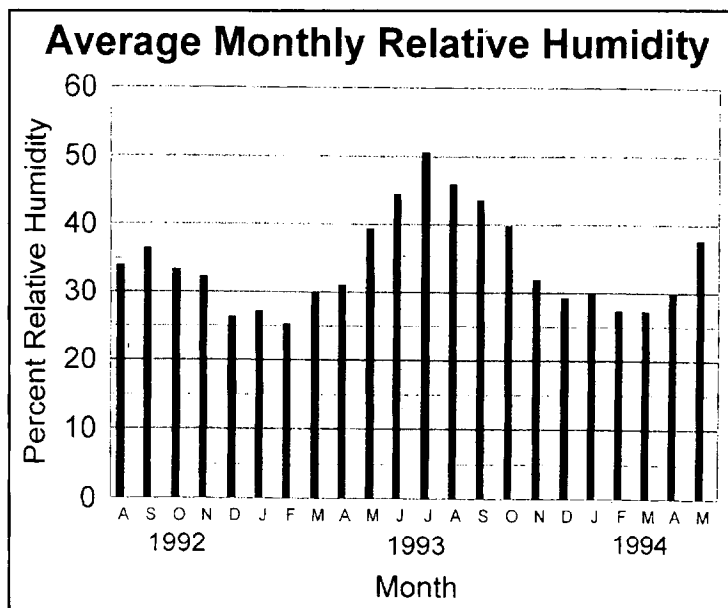


Chart 2 - Average Monthly Relative Humidity.

Al Seitz-Tuning in the Tundra

By Anita Sullivan
Feature Writer

If you think about it, being “Alaska’s senior piano tuner” is a pretty big deal. Not only is Alaska a very large place (larger than Texas by quite a lot), it is still probably the only state that you could talk about this way — as if being a piano tuner up there was something people might notice. Statistics aren’t available about pianos-per-square-mile in Alaska, but the 1997 PTG Membership Directory lists 16 tuners for the entire state, about the same number as, for example — Charlotte, North Carolina, or Dayton, Ohio.

Yet Al Seitz, when you talk to him, manages to work things like “moose” and “bush pilots” and “Arctic circle” into the conversation as if they were perfectly normal, everyday matters.



Photo 1 - Al Seitz is accustomed to the cold climate of Alaska.

And so they have been for him, since 1957 when he began to evolve from being a professional musician (drummer) into being the only (at that time) resident piano tuner in the whole state.

The change from one kind of music to another happened pretty naturally for Seitz. He came to Anchorage, Alaska in 1947 from New York, wanting to see for himself what the Wild West was like. And, sure enough, “the city was pretty wild,” he recalls. Slot machines and gambling, which have now been turned into revenue producers for many state governments, were then illicit activities taking place in back rooms of nightclubs. For ten years Seitz played drums in a variety of bands in these clubs, until the post-war boom began to slow down a bit. During those years the pianos in Alaska were being tuned by one man, a “Mr. Baker” who lived in Seattle and came up on the boat and the train from Seattle. “He made a ton of money,” Seitz chuckles. Although he didn’t know Baker, he remembers him as a man in a long overcoat “shuffling down the street with a big bag of tools in his hand.” When Baker died somewhere in the mid-1950s, there was a sudden vacuum: nobody tuning pianos in the entire state of Alaska. Opportunity came knocking (if you’ll pardon the expression), and Seitz made a shift in careers.

When I asked him if he was overworked during those early years, he admits that yes, he was indeed. He did all the concert tuning, tuned for dealers, did churches and schools, and had his own rebuilding shop. And this means not just in Anchorage, but up in Prudhoe Bay in the oil camps, in the Aleutians, in native villages, in places like Kotzebue and Kodiak. Look at a map of Alaska, point to any town, and if there’s a piano in it, Al Seitz has probably tuned it at one time or another. His wife Dorothy, whom he had met during his years as a drummer, would often gently remind him that he was working too hard. She was working hard, too, as the mother of their five children — all of whom, by the way, still live in Alaska.

Even though life in the oil camps is temporary, “there’s a gal up there now giving piano lessons in one of the camps,” he says.

THE TUNER’S LIFE

Flying-in for a tuning is routine for tuners in Alaska (in Hawaii too, but that’s a different story). Seitz says he would often stay in people’s homes during his visits; sometimes a bush pilot would leave him the use of a truck while he was in town. The oil companies would ask him to come and tune the pianos in their camps, and although he tried to schedule more than one piano per trip, “sometimes they would fly me up for just one piano.” It would be an all-day affair: get off the plane, tune the piano, have lunch, and wait around for the flight back home. Kind of inefficient, but at least the food was good.

I couldn’t get Seitz to admit that Alaska is still a “rootin’ tootin’” place any more, although he says Anchorage “still has that old-timey feeling.” He likens Alaska to a kind of extreme version of what “the West” is all about — “the further West you come, the more you loosen your tie,” is how he puts it. That informality is one of the features that kept him and his family in Alaska. What about the winters? The darkness? The cold? Well, nowadays since he’s got some younger tuners to take up the slack, he says he doesn’t schedule anything in the winter time till after 10:00, when dawn is breaking. It is kind of a nuisance, though, that you can’t leave certain tools and supplies out in the car overnight. Glue, especially, will be ruined by the cold, and your tuning fork will register the wrong pitch if it’s freezing.

And sometimes you arrive at your appointment and there’s a moose in the yard, between you and the front door of the house. What do you do? “You just sit in the car and blow the horn till it goes away!” he says matter-of-factly. The TV show “Northern Exposure,” Seitz points out, which shows a moose walking down the street — well, it’s more or less true. And where else but Alaska would you take the bottom board off a piano and find a stash of silver dollars?

Will he and his wife go south in their retirement? What retirement? “Piano tuners don’t retire!” Seitz reminds me, although he does enjoy fishing at his cabin on Big Lake, a place he visits year-round. For a while his wife had in mind that they might retire someplace where we could go outside in the winter,” but now that they have grandchildren that plan has been shelved. “I got pianos for all of my kids,” he says, “they’re all musical!” Does Al Seitz play the piano? No, he doesn’t, even though they have three or four of them around the house. At Christmas when his kids come over, it is his wife who plays one of these pianos so they can all sing carols together. 🎹



Photo 2 - The keyboard of a piano is a familiar place to Al Seitz.

THE PUZZLER

By
Dan Levitan,
RPT

Puzzler #11—Reading Matter

Have you ever noticed what you look at when you tune? Tuning is an aural craft, and, except for the visually impaired or those whose eyes are glued to a tuning device, a tuner's vision has lots of down time. To address this situation, a number of piano manufacturers have thoughtfully supplied eye-catching reading matter (in addition to the maker's name) that many technicians probably find themselves staring at for embarrassingly long stretches of time. This Puzzler gathers together 40 of the greatest hits in piano reading matter, as they actually appear in the piano. For each one, score a point if you can identify the make.

10 or fewer – You've passed the written exam.

11-22 – You've passed the tuning and bench tests, too.

23-34 – You've got a 25-year pin.

35 or more – You still refer to yourself as a "Craftsman Member."

Some pieces of piano reading matter are just model designations.

1. Quarter grand

2. U-107

While others are lessons in history.

3. 125th Anniversary 1862-1987

4. In styling, engineering and workmanship, [piano make] has—since 1883 - been regarded as the standard of comparison in fine pianos.

5. Since 1837 the world's best piano

Some tout special features of the instrument.

6. CENTRIPETAL TENSION RESONATOR

7. VIOLIN BRIDGE CONSTRUCTION

8. Synchro-tone(tm) Bass Strings

9. THIS PIANO MADE OF/"ROYAL GEORGE" HAMMER FELT (U.K.)/"Roslau" MUSIC WIRE (W/GERMANY)/"Delignit" PIN BLOCK (W/GERMANY)

10. Special consideration is given to the important consideration of TONE.

11. THIS BACK HAS BEEN PROCESSED BY [maker's] EXCLUSIVE MEZZO-THERMONEAL STABILIZER TO INSURE UNSURPASSED TONAL STABILITY

12. This Soundboard is manufactured from genuine Roumanian Spruce, which is the identical material used in the Stradivarius violin

13. RESOTONIC PERMA-CROWN SOUNDBOARD

14. For Faithful Tone Reproduction This is a Lifetime [Maker] SPRUCE PERMATONE SOUNDBOARD/ Guaranteeing you Permanent Crown/Permanent protection from Cracking/Permanent protection from Warping

Some are slogans that the maker hopes you'll find catchy.

15. The Aristocrat of Pianos

16. Built in America for America's finest Homes

17. THE HOME PIANO OF AMERICA

Some are testimonials from satisfied customers.

18. MANUFACTURED BY APPOINTMENT TO ... HIS MAJESTY GEORGE V KING OF GREAT BRITAIN AND EMPEROR OF INDIA ... AND OTHER DISTIN-

GUISHED ROYALTIES.

19. AS USED BY H.R.H. AND PRINCESS INGRID OF SWEDEN

20. HONNEUR ET PATRIE/THE HIGHEST AWARD EVER GIVEN ANY PIANO FORTE MANUFACTURED IN THE WORLD.

21. SINCE 1927 EXHIBITION AWARDS

And some are instructions.

22. WARNING Before closing lid be sure that lid prop is in closed position above shelf, and fall is in open position

23. IN ORDER TO REGULATE THE ACTION THE SENSOR UNIT SHOULD BE REMOVED

Or personal messages.

24. Look at the Back

25. This is my creed and on it I have built my Piano and Reputation!... I want to be right and do right. If I fail in any one thing, it will never be because I wanted to.

26. To the purchaser of this piano ... I, personally, was responsible for the final inspection of this piano.

You can get a lesson in Latin or Greek from a piano.

27. PALMAM QUI MERUIT FERAT SUI GENERIS

28. AKROS - SUPREME SONUS - TONE

Or a return address.

29. 422 WARDS CORNER ROAD/LOVELAND, OHIO 45140

30. MADE IN U.S.A./Thomaston, GA.

Sometimes a first name is enough to identify a piano's make.

31. Julius

Or even just two capital letters.

32. AP

33. KK

34. ST

35. NA [or] LQ

Or, you might recognize this memorable series of abbreviations:

36. Musical Inst. Mfg. Co. Ltd.

Finally, name the part of the piano you'd be looking at if you saw these bits of reading matter.

37. BADGER/TRADE MARK

38. THE COMSTOCK, CHENEY & CO./IVORYTON, CONN.

39. CAUTION/BEFORE COMPLETELY SLIDING THE ACTION INTO THE PIANO, LIFT UP ON THE STACK (OR PUSH DOWN ON ALL THE KEYS) AND GENTLY PLACE THE ACTION DOWN ONTO THE SOLENOID TIPS.

40. 88

41. [a five-line staff with a half note in the second space from the top]

42. ALCOA

43., 44., 45. 13 1/2 [Name three places where you might see this number.]

Answers on Page 26

Puzzle mail (snail mail only) should be sent to Daniel Levitan, Puzzle Editor, 530 First Street #6, Brooklyn, NY 11215. Elaborations on previous puzzles will be printed, even at the expense of the puzzle editor's dignity. Especially welcome are ideas and suggestions for future puzzles, subject to whatever modification the whim of the editor may deem necessary.



Thinking A Little Bit Bigger

By David J. Barr, RPT
Economic Affairs Committee Member

I have been working on different ideas for building a bigger business for several years now. I have developed several ideas, which might be of interest to some of you. I have modeled to some extent after doctors and lawyers in their concept of building practices. These are usually a form of a partnership in which each member owns a portion of the business representing either an amount equal to their financial equity or their earning power within the company, or the combination of the two.

Over the past 15 or 20 years, I have observed that it is fairly difficult for a sole proprietor to be taken seriously by the lending institutions. It takes a good number of

Economic News & Views

years of solid income before they trust us to be a worthy risk. Another thing that I have observed is that after 20, 30, 40 or even 50 years of building a typical one-person tuning

service business, such a business only has a fair market value of a few thousand dollars. There is a very limited market of qualified buyers with a much higher number of sellers. The laws of supply and demand prevail. These have been troubling observations for me over the years. It is difficult to build and expand a small business such as ours without adequate capital. It is also unsettling to know that the typical selling value of our businesses won't constitute any significant portion of our retirement portfolio. I have also observed that most financially successful technicians work an ungodly number of hours and rarely feel a sense of escape from the demands of their businesses. Many of the ideas I have been working with are designed to be the answers to these frustrations.

Can you imagine five or six skilled technicians forming a joint venture in a metropolitan area? Why not? Consider this kind of scenario. Together, a building, which would be adequate for a decent sized shop and a comfortable office space, would be acquired. Either a full-time shop technician could be hired and trained, or the group of technicians could rotate turns working full days in the shop. A full-time executive secretary would also be hired. This person would be responsible for all of the scheduling and bookkeeping for each of the outside technicians as well as the shop technician. This is a critical position. Excellent people skills over the phone are a must. A reasonable amount of technical understanding would also be important. Assuming the shop

technician would earn his/her own salary through their work, the only out of pocket overhead would be the secretary's salary and the expenses of the shop.

Assuming a solid secretary could be hired in many markets for around \$24,000 per year plus benefits, the total cost of this person would be around \$36,000 per year. A decent building could be obtained for about \$800 per month, or \$9,600 per year. Gas, electric, and telephone could easily add an additional \$500 per month, or \$6,000 per year. Total overhead might reach as much as \$51,600 per year. Let's assume that six technicians are tuning 5 pianos per day, five days per week, 46 weeks per year. That would equal 1150 tunings per year per technician, or 6900 tunings total. I am going to assume that the shop would equal the income of two field technicians over the course of a year. (A shop technician can work an eight-hour day every day). Therefore, for the sake of our model, let's add 2300 tunings to our total. That would equal 9200 tunings. If we divide \$51,600 by 9200 tunings, the cost per so-called tuning comes down to \$5.61 each. This scenario assumes the purchase of an \$80,000 building with its entire overhead. Certainly, renting is an option. Also, a part-time secretary could help to get everything up and going.

What kind of benefits might we derive from this type of business structure? How about a significantly shorter work week? How about greater earning power? How about more privacy with your families? How about the ability to specialize? What about borrowing power? What about owning a share of a business, which will be worth a significant amount of money when it is time to sell?

If a secretary is handling all the scheduling and bookkeeping, when I finish with my last appointment of the day, I am done. The phone will not ring at home after that unless it is friend calling socially. Some sort of rotation could be worked out for emergency calls (if such a thing really exists), but other than that, your evenings would be your own. With the availability of a full-time shop backing you up, you could earn commission on shop work, which you sell, pick up, and reinstall. Turn-over time would be very efficient, so earning power would climb. If a group business such as this needed to borrow a sum of cash for something like a delivery trailer or truck, the lending institution would have to consider the economic power of the entire business, not just one of its members. If one member were to be injured or become ill, the rest of the group would still be there. It is far less risky for the banks to consider. Finally, buying out

Continued on Next Page

Gone, But Not Forgotten

What was billed as "The World's Largest Collection of Business Cards for Piano Technicians" made its final showing at the Providence Convention. The display of more than 2,000 cards represented 50 years of collecting from piano stores and other technicians.

It is not the difficulties in past conventions of getting permission and finding a location to display the cards - nor the many hours required in setting them up and taking them down that means no more showings. It is just that the cards are gone.

On the last day of the Convention, I had taken them down and stacked them in piles on a nearby table. I went back to the display wall to remove the scores of scotch tape used; and when I went back to the table where I had placed the cards, they were gone! Gone, except one outstanding card marked "First Place" which had been displayed separately from the others.

My assumption was that someone thought we were through with the cards and took them rather than their being thrown away. While I was still somewhat in a stupor, one of the attendees came up and asked if he could see that one special card. He looked at it briefly and then nonchalantly put it in his shirt pocket. I might have been dull enough not to notice his name, but not enough to let him get away with it.

A happy ending to this saga could come if the cards were returned so they might show up at future conventions. In that case I will ask no questions.

— Sid Stone, RPT
Golden Gate, CA Chapter ■

Student Earns Puget Sound Scholarship

Monica Ohuchi, of Bellevue, WA, pianist and first place winner in the Music Teachers National Association High School performance competitions, performed a recital at Pacific Lutheran University's Lagerquist Concert Hall on Thursday, June 18, at 1:30 p.m.

Monica was the first annual recipient of a cash scholarship award given by the Piano Technicians Guild to a Washington State piano student. The \$300 award will be presented by Daniel Skelley of the Puget Sound Chapter of the PTG in memory of Rudy Voth, a long time member of the Chapter and a devoted member of Tacoma's musical community for many years.

For more information call Carolyn Malnes at 425-743-1660. ■

INDUSTRY NEWS

Baldwin Targets New Web Site at Consumers, Dealers

Loveland, OH — An Internet web site has been launched by Baldwin (www.baldwinpiano.com) to provide a convenient way for both web surfers and Baldwin dealers to access information about the company and its products. The new site, which was activated Jan. 15 on the worldwide web, began receiving e-mail correspondence from visitors after being on-line for only two hours!

The site provides information about Baldwin, Chickering and Wurlitzer-brand pianos as well as the Baldwin ConcertMaster computerized player piano system. Specifications and benefits are included for all products. Viewers may also link to Baldwin's Pianovelle web site (www.pianovell.com) which spotlights the company's innovative line of digital pianos. The sites may be viewed on any computer that is equipped to access the internet.

In addition to product details, the site provides historical information about Baldwin, Chickering and Wurlitzer and includes a chronology of important events at the company. An extensive "Gear" area offers the opportunity to purchase Baldwin clothing and accessories. Although visitors cannot purchase a piano via the web site, they can get information about financing, leasing and rental options that are available through Baldwin and its authorized dealers. And if they already possess a Baldwin, its age may be determined, if desired, in the "How Old Is Your Baldwin" area.

Baldwin Piano also announced that it has joined forces with the award-winning CultureFinder web site (Web: www.culturefinder.com and AOL Keyword: culturefinder) to create Piano Notes, an online resource that spotlights Baldwin Artists and caters to piano buffs. To kick off this initiative, Baldwin has created an exclusive giveaway contest for America Online (AOL) members. The prizewinner will receive a Baldwin grand piano with a ConcertMaster player system, valued at more than \$30,000. The winner will be chosen by random drawing on May 15, 1998.

CultureFinder is the premier online site for classical music, opera, dance, theater and the visual arts. Currently reaching a monthly audience of approximately 250,000 people, it features the only nationwide arts calendar encompassing full-season schedules for more than 1,200 arts organizations.

Each month, Piano Notes will feature a Baldwin Artist of the

Continued on Next Page

Thinking A Little Bit Bigger

Continued from Previous Page

a member's share of such a business would be like purchasing shares of stock. For a young technician, or one who wants to move from one market to another, this would represent an excellent return on invested dollars. They would know exactly what they were buying into and what the expected return would be. They would be buying into an established, successful system. As long as the other members of the practice carefully screened potential buyers to assure a good fit with their system, the buyer is virtually assured immediate, high level success in that market. Essentially, they could go to work full-time the very next day.

There are many technical questions concerning the forms of incorporation or partnership that would be most beneficial which I am not addressing here. I simply wanted to present some possibilities for your consideration. I have been talking to business consultants, lawyers, and doctors in order to hear the range of opinions on the different options available, and the legal ramifications of each. This becomes very intricate and deserves a great deal of exploration. It is my wish that over the next several years, we might be able to develop three or four business plans for this type of business structure which would be available for purchase at the home office for a modest fee, to my way of thinking, which would be of great value to those who follow who want more out of this crazy wonderful work that we do. ■

INDUSTRY NEWS

Continued from Previous Page

Month. The first edition, which was activated in January, focused on jazz pianist and educator Jimmy Amadie. Upcoming participants include Earl Wild, George Shearing and Michael Feinstein. This segment provides a profile on the artist, a question and answers forum, touring information and a discography that is linked to online CD-buying services. In addition, a live "online chat" lets AOL members interview these artists at their computers.

Piano Notes also provides "The Piano Wizard," a service where visitors may ask an expert their piano-related questions. Baldwin Artist Alexander Peskanov, a highly respected concert pianist, composer, recording artist, author and lecturer, is wearing the wizard's hat and his list of incoming questions is quickly growing!

Glenn Clutter Appointed DSM for Young Chang & Kurzweil

"We are very pleased to announce the appointment of Glenn Clutter to the position of District Sales Manager for both Young Chang Acoustic Pianos and Kurzweil Digital Pianos, effective January 1, 1998. His territory will include Connecticut, Massachusetts, Maine, New Hampshire, New York, Rhode Island, Vermont, and Pennsylvania," says Young Chang/Kurzweil Vice President Tom Miller. "Glenn has spent many years in the keyboard industry and achieved great success. His experience in both retail and wholesale in this territory will be invaluable to our dealers. Glenn's knowledge of the market, products, and people will be a great asset to us" states Miller.

Glenn Clutter's twenty-two year history in the music business includes his tenure as district sales manager in the New England area for two major piano and keyboard manufacturers. Previously, he enjoyed twelve-years as the owner/operator of Salisbury Piano & Organ in Salisbury, MD. He currently lives in Williamsport, Pennsylvania with his wife and two daughters. "We know he will achieve success in this new position and we wish him all the best," concludes Tom Miller.

Young Chang to Offer Unprecedented New Warranty

Young Chang America, Inc. is proud to announce the unveiling of a new 15-year, transferable acoustic piano warranty. "This unprecedented full warranty will apply to all new Young Chang acoustic pianos in-

cluding verticals and grands from our Tianjin, China factory and Young Chang's Pramberger Signature Series with design enhancements by Joseph Pramberger," announced Tom Miller, VP of Young Chang Acoustic Pianos. "We feel that the quality of our pianos, as well as the design and craftsmanship, make this a logical action to take," continues Miller. Young Chang also includes a lifetime, limited warranty on parts. "We see a lot of non-transferable, limited warranties with short time periods, but we know that our product is of excellent quality and so we stand behind it. We want to give our dealers all the ammunition we can and our customers the best value for the money," concludes Miller.

For a complete description and details, please write to Young Chang America at the new address: P.O. Box 99997, Lakewood, Washington 98499-0997.

Miller Reorganizes Kurzweil/Young Chang Home Division

In September 1997, Young Chang America made several announcements regarding changes in their American market strategy. Among these was a commitment that Kurzweil Music Systems is indeed not for sale, and the news of the formation of a new division. "The sales and marketing for Kurzweil Digital Pianos and Young Chang Acoustic Pianos has been combined in order to serve the dealers more efficiently. Thomas Miller, former Vice President of Kurzweil Digital Pianos, has been appointed Vice President of this new division and will be in charge of reorganizing," according to James Kwon, President of Young Chang America.

"There are many exciting things happening for our dealers," states Tom Miller. "We are proud to welcome three new district sales managers; Scott Shebeck, Glenn Clutter, and Frank Conrad. We are announcing, just in time for NAMM, four new models in our very successful Mark Series of Kurzweil digital pianos. This will give us a product line with a huge selection of popular price points. We have wonderful Young Chang acoustic pianos from our factory in Tianjin, China including both verticals and grands; these are well built, great sounding, and very affordable. Last, but not least, we are very proud to present Young Chang's new PG Series with design and engineering enhancements by Joseph Pramberger, former contributor to Steinway® and Yamaha®. These new world-class instruments are truly fantastic and represent some of the finest pianos ever built," concludes Miller. ■

EDITOR'S NOTE: The following article in the *Daytona Beach, Fla., News-Journal* commemorated the 50th anniversary of Helen and Walter Pearson's piano business.

Company Hits High Note with Golden Anniversary

By Tamara Phillips
News-Journal Correspondent

Holly Hill — When Helen and Walter Pearson started in the piano business in New Brunswick, Canada, 50 years ago, customers paid \$498 for a high-quality instrument.

In today's market, the same piano would demand a price of \$4,000 at their Community Piano Inc. showroom, 1128 State Ave.

Although the Pearsons have seen a drastic rise in cost through the years, escalating prices have not hurt business profits.

Sales account for 50 percent of company revenue. Available services, which include piano moving, rental, refinishing, rebuilding and maintenance, contribute to the balance.

Since relocating from Canada to Daytona Beach in 1964 and adding son W. Tyrrell Pearson to the staff, the family has also observed a growing acceptance of Asian-made pianos.

Absent from the local marketplace in 1957, having the knowledge and foresight to recognize a good thing, Walter Pearson contracted with the Japanese for the next several years to sell Yamaha pianos bearing the Pearson name.

"Nobody at the time would buy Japanese 'junk,'" Helen Pearson said.

"I discovered the Yamaha piano, possibly in Europe, and was just amazed at the quality and the price," Walter Pearson added. "So I asked them if they would ship them out to us under our own name and they said they would."

Although foreign-made products remain popular, according to Mrs. Pearson, the demand for certain piano types comes "in spurts." "It depends greatly on the economy," she said. "Sometimes the rebuilt pianos are the ones people buy, sometimes for another year or two they buy mostly grands."

Currently, console and studio styles are the store's best sellers.

"Everybody would like to buy a grand, but they're double and triple in price," Mr. Pearson said.

To celebrate 50 years in the piano business, the Pearsons are offering special savings on purchases, and customers are invited to attend a cake-cutting ceremony at the showroom at 3 p.m. Saturday.

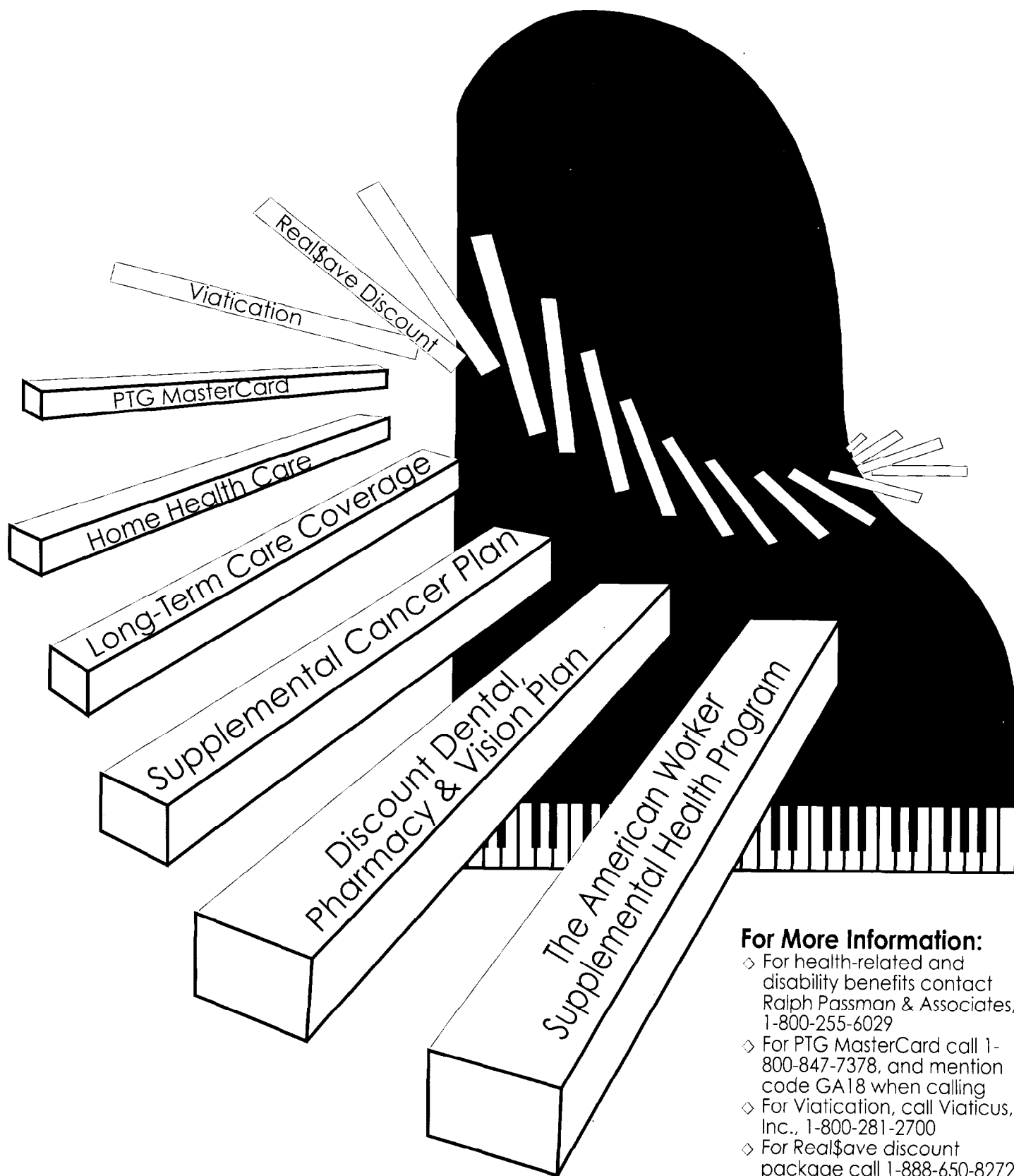
The saving on prices might be just the right incentive to help consumers increase their children's brain power.

"The fact that music makes you smarter has been proven," Mrs. Pearson said. "It affects the growth of the brain up to age 13." ■



The Privileges of Membership

Because members' personal and professional circumstances change over time, the products and services offered by PTG must change as well. The number of membership benefits available through PTG recently expanded with one idea in mind: to meet members' needs by providing quality products and services at a competitive cost.



For More Information:

- ◇ For health-related and disability benefits contact Ralph Passman & Associates, 1-800-255-6029
- ◇ For PTG MasterCard call 1-800-847-7378, and mention code GA18 when calling
- ◇ For Viatication, call Viaticus, Inc., 1-800-281-2700
- ◇ For Real\$ave discount package call 1-888-650-8272

Passages

Richard "Rick" Temple

June 23, 1932 - July 17, 1998

Richard (Rick) Temple, a teacher in School District 206 from 1961 to 1992, died on July 17, 1998 at the University of California Medical Center in San Diego. He was 66.

During a career that spanned 31 years, Mr. Temple taught social studies and chess. He was active in the DFL party, served 12 years on the Carlos Township Board and was a member of the American Legion. He traveled extensively throughout the United States, Russia and Japan.

It was music, however, which enchanted him. He played violin, viola, guitar, string bass and clarinet and was a member of various chamber music groups, the Alexandria Big Band and the Alexandria Area Arts Association. He was a 30-year member of the Piano Technicians Guild, belonged to the Las Vegas Musician's Union and was a founder of the Sun City (Las Vegas) Chamber Music Club.

Mr. Temple was born in Fargo, North Dakota. After obtaining a Bachelor's Degree from the University of Wisconsin and a Master's Degree from the North Dakota State University, he served in the United States Navy during the Korean War. After retiring from teaching, Rick and his wife, Barbara, moved to Las Vegas, Nevada.

He is survived by his wife; two daughters, Kristin Tuel of Ferfus Falls, and Allisa Temple of Burnsville; son Richard Scott Temple of Aloha, Oregon; five grandchildren; brother Dr. J. William Temple and sister Mary A. Page.

Friends and acquaintances will remember Rick for his perpetual pursuit of knowledge, his effervescent smile, his irrepressible laugh and his unabashed passion for living.

Memorials may be made to the UCSD lung transplant program: UCSD Regents, 200 West Arbor Dr., San Diego, CA 92103-8892, Attn.: Lung Transplant Program.

A memorial service was held on Thursday, July 23, 1998 in Las Vegas.

—Carl Fischer, RPT

CALENDAR OF EVENTS

September 19, 1998

Pomona Valley One-Day Seminar

Location: California Poly University,

Pomona, CA

Contact: Thomas Schultz

(909) 593-0766

244 Hickory Ave., Pomona, CA 91767

October 15-18, 1998

TEXAS STATE ASSOCIATION

Marriott-Greenspoint Area

Contact: Roy Escobar

(281) 745-0231

2710 Durban,

Houston, TX 77043

October 22-25, 1998

NORTH CAROLINA REGIONAL CONFERENCE

Holiday Inn Select, Richmond, VA

Contact: Alan Hallmark

(804) 346-8068

email: pianomanadventures@erols.com

Or Contact: Lewis Spivey

(252)937-4777

5041 Rachel Dr.,

Nashville, NC 27856

October 9-11, 1998

OHIO STATE CONFERENCE

Location: Graves Piano & Organ,

Cleveland, OH

Contact: Mike Masters

1636 Warren Road, Lakewood, OH 44107

(216) 228-2208

October 17, 1998

NYSCON

Holiday Inn, Plainview, NY

Contact: Michael Slavin

(516) 781-8888

2409 Wood Ave.,

Bellmore, NY 11710

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 the Home Office, your event will be listed six-months prior and each issue until 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.

Associates Join the RPT Ranks in July

REGION 1

118 Long Island-Cristofori, NY
Keith T. Hurrell
61 State Street
Rockville Center, NY 11570

481 Detroit-Windsor, MI

Keith J. Barney
657 Rayburne Avenue
Sarnia, ON N7T 7A7
Canada

846 Utah Valley

Eldridge J. Travis
5581 W. 8400 S.
Payson, UT 84651

REGION 2

379 Knoxville, TN

Marcia L. Ramsey
134 Lancaster Road
Oak Ridge, TN 37830

601 Chicago, IL

Patricia A. Ludden
809 St. Andrews Drive
Crete, IL 60417

972 Portland, OR

Richard K. Wheeler
1928 SE Washington Street
Milwaukee, OR 97222

REGION 4

445 Youngstown, OH

Keith M. Hamilton
8015 Forest Lake Drive
Youngstown, OH 44512

REGION 7

594 Montana

Elizabeth A. Baker
30 Reinig Street
Belgrade, MT 59714

981 Seattle, WA

Suktae Hyun
11703 Grove Drive
Mukilteo, WA 98275

REGION 1

064 Connecticut

Robert S. Marullo
11 Relay Place
Cos Cob, CT 06807

NEW MEMBERS IN JULY

REGION 6

951 Santa Clara Valley, CA

Jeffrey C. Williams
952 2540 Marsha Way
San Jose, CA 95125

REGION 2

212 Baltimore, MD

Robert Thomas
Rd 1, Box 487
Ellendale, DE 19904

REGION 5

511 Siouxland, IA

Melissa A. Dinesen
1347 Road M36
Harlan, IA 51537

REGION 7

12 Vancouver Island, BC

Alan W. Lehmann
4708 McConnell Avenue
Terrace, BC V8G 2G8
Canada

REGION 3

871 New Mexico

Annabelle M. Linhart
212 Proto Avenue
Socorro, NM 87801

553 Twin Cities, MN

Bruce M. Hagen
17414 Jaguar Path
Lakerville, MN 55044

846 Utah Valley

Eldridge J. Travis
5581 W. 8400 S.
Payson, UT 84651

REGION 4

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Ronald R. Zahora
9770 Grant Place
Crown Point, IN 46307

641 Kansas City, MO

David D. Hall
34 Misty Springs Circle
Platte City, MO 64079



Phyllis Tremper
PTGA President

AUXILIARY *exchange*

DEDICATED TO AUXILIARY NEWS AND INTERESTS

One for the Record Books

Another successful Piano Technicians Guild Convention has been written in the history books. The Auxiliary Council went wonderfully well and the members passed all of the revisions to our By-laws. We will be sending a new set of by-laws to each member in good standing in the very near future. Please be patient. It takes a while to get them copied and mailed.

We welcome two new board members, Diane Hennessy and Evelyn Ternstrom who will be Vice-President and Recording Secretary, respectively. We are very happy to have you with us. The members voted for the nominating committee's slate of officers, and I am happy to represent you as your President for another term.

Beva Jean's afghan was a big hit and many bought tickets for it. It was Gracie Wagner, PTG's Secretary-Treasurer, who was the big winner. Hope it keeps you warm this winter,

Gracie! The afghan raffle was such a big hit that Beva Jean says it is coming back next year. We can hardly wait to see what she has for us. Remember, we still have cook books, stationery, pins and T-shirts for your buying pleasure, all of which helps fund the scholarship. I love my T-shirt: thank you Elena Childs! Please drop me a line if you want any of the products we have for sale or just be a good sport and send a donation in any amount to Marilyn Raudenbush, our treasurer. Your KC scholarship winners will be most appreciative.

Regarding the Auxiliary tour, please be assured that there *will* be a tour next year. The Newport tour was not well advertised and as a result there were many last minute calls asking for a seat on the bus, and we accommodated as many as we could. I was not able to take the Newport tour as I became ill that day. I am told it was a wonderful success. So, start making you plans for the tour at Kansas City next year. Let me tell you about it.

I have already made many calls and you will hear more about it as the year goes on. I thought we would like to have lunch at a Mystery Dinner Theatre; it was such a huge success last time we were in Kansas City we might want to try it again. Many have expressed interest in visiting the Truman Library. They have added a 45-minute film and some new displays. Would you rather have classes or go shopping? The classes at Providence were not well attended so I am thinking about a tour to a large shopping mall. The Hallmark Company is right next door to our hotel, so you can go over there on your own, or would you like me to plan a mini-tour for all of us?

Also, a big welcome to our new members who joined us in Providence. Happy to have you aboard. More next month. Remember to *"Put a Little Music in Your Life."*

— Phyllis K. Tremper
PTGA President

PTG Auxiliary Executive Board

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President

413 Skaggs Road
Morehead, KY 40351
(606) 783-1717

E-mail: f.trempe@morehead-st.edu

DIANE HENNESSY
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(501) 279-4301

BEVA JEAN WISENBAKER
Corresponding Secretary

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Treasurer

20 North Laurel Street
Millville, NJ 08332
(609) 825-2857

E-Mail: Raudy88@aol.com

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VIRGINIA SELLER
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JEWELL SPRINKLE
Roanoke, Virginia

RUBY STIEFEL
Louisville, Ohio

In Memory of Barbara Zeiner

In March we said goodbye to our friend Barbara Zeiner. Barb left her mark on all the seminars and state conventions she was involved with. She spent many hours making things so we all went away with something she personally put together.

As I look around our home I know there are many reminders of Barb, and I am grateful for them and for the many hours spent in conversation. She always had time for everyone and was an avid supporter of PTG, PTGA and her family. We spent priceless time together. I hope you got to know her, too, and I know we will all miss her, but we won't forget her.

— Celia Bittinger

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Classified Advertising rates are 40 cents per word with an \$8.00 minimum. Full payment must accompany each insertion request.

Closing date for placing ads is six weeks prior to the month of publication.

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FORTEPIANO MAINTENANCE

HANDBOOK. For Owners and Technicians. Technical but well-explained. Stringing, Action, Damping, other topics. Builders, suppliers listed. \$20 plus \$3 s&h. Margaret Hood Fortepianos, 580 West Cedar Street, Platteville, WI 53818.

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<http://ourworld.compuserve.com/homepages/ptools>. Tremaine Parsons, RPT; 530-333-9299.

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DISPLAY AD INDEX

Advanced Cleaning Tech.	3
Baldwin Piano & Organ	7
CA Geers	40
Damp Chaser Electronics	5
Decals Unlimited	11
Dryburgh Adhesives	11
Inventronics	3
Jaymart Wholesalers	9,11,13
Kawai	IFC
Majestic Piano	8
North Carolina Regional Conf. ...	11
NYSCON	11
P & G Investments	9
PianoDisc	IBC
Pianotek	9
Randy Potter School	3
Renner USA	9
Reyburn	13
Samick	19
San Francisco Piano Supply	11
Schaff Piano Supply	1
Walter Piano	16
Yamaha	BC
Young Chang	23

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