

# Violin Octet

New Voices for the 21st Century

Volume 2, Number 6 Spring 2007



## First European Quintet Performs



A quintet of New Violin Family instruments in rehearsal in Belgium. (l to r) Bert van Laethem, soprano; Eveline Debie, mezzo; Jan Sciffer, alto; Jef Kenis, tenor; and Greg Brabers, baritone.

The concert took place on February 10, 2007 at 8:00 p.m. in the Saint Peter and Paul Church in Mol, Belgium, a small city about 40 km east of Antwerp. There were an estimated 200 people attending, most of whom were local residents of Mol. The quintet, which was made up of teachers and students from a local music academy, performed only a few selections because their performance was just one part of the music academy's annual concert.

Unfortunately, the concert was not recorded and no pictures were taken. Joris Wouters, who built the quintet, says the picture above was taken during a rehearsal. The quintet played two selections arranged by Robert Spear, who had sent them

to Belgium via email; "Purcell's Fantasia on One Note," and the aria from Bach's Cantata 124.

Before the ensemble played, the director of the school gave a short introduction. Wouters says it was clear that this gentleman (name unavailable at press time) had done his homework and had carefully read all the information Wouters had given him. A number of people in the audience responded positively to the New Family instruments, and several asked questions of Wouters after the concert.

Bert van Laethem, who organized the group, and Wouters came from the same town and have known each other for quite some time. Wouters

says that van Laethem likes to participate in new and unusual concerts and performance settings, which gave Wouters the idea that van Laethem might be interested in the octet instruments, which he was. Van Laethem is also a teacher at the Academie voor Muziek en Woord in Mol, and took it upon himself to find others who would like to play the new instruments in concert. Jan Sciffer, who played the alto, is the cello instructor at the Academy. All the other performers were students.

The performers were enthusiastic about the new instruments, and although the performance was planned to be a single event, the players want to keep on playing them.



Joris Wouters, Luthier of the Belgian Quintet.

# Ensembles and Compositions

## Albert Consort Reorganizes as OctaVivo!

The Albert Consort of Ithaca, which played its last concert at the OCTET 2005 Convention Gala, is reorganizing after 18 months of inactivity. Founder Robert J. Spear says the group will emerge from the layoff with a new name, *OctaVivo!*, and a few new faces. Spear says that he chose the new name because the term "consort" in the original name apparently caused people to think the ensemble was a period ensemble playing Baroque music on early instruments.

Two of the Albert Consort's founding members, soprano violinist Carrie Reuning-Hummel and baritone violinist Lizzy Evett, are still with the group, and mezzo violinist Bill Hurley, who played in Tallis Orchestra at the gala concert, also remains with the ensemble. Hummel's 17-year-old daughter, Sarah, is the group's new tenor violinist for the 2007-08 season. She replaces founding member Sera Smolen, who is on sabbatical. Patrick Tobin takes over the alto violin position from Jaime Kibelsbeck, who has returned to school for graduate studies. Tobin played in the Tallis Orchestra at the convention and later moved from Oregon to New York State to play with the Albert Consort.

The most recent addition is Shannon Cockbill, who will play the small bass, while Spear will move from the small bass to the contrabass. The group has been rehearsing regularly through the winter and the spring,

and Spear hopes that after a summer break, *OctaVivo!* will make its first public appearance this fall.

### New Recording Projects.

The group is already planning several ambitious undertakings, one of which represents moving into previously unexplored territory. Mezzo violinist William Hurley has agreed to record the complete Telemann Fantasias for unaccompanied violin. These 12 selections are rarely played



Bill Hurley

and seldom recorded, despite their great beauty, and the planned CD will enhance both the standard repertoire and expand the offerings of the mezzo violin available to the public.

Hurley and Carrie Reuning-Hummel are also planning to record the 44 Bartok Duets for future



Carrie Hummel

release in CD format. The duo will play these short, delightful pieces utilizing two mezzo violins. The Bartok duets also have not been recorded often by other artists and should also be a welcome addition to the NVFA classical music catalog. ♪

## New Music For Octet Instruments

### Dimensions of C12.

Two composers have written new music for OctaVivo! when it reaches full size again. Sora Jederan Shpack has composed a piece called "Dimensions of C-12." Shpack says of the piece, "When I began writing, my thoughts were around the essence, energy, and vibrations of the note 'C.' My intent was to carry that through the piece and explore what that means to me, although more on a subliminal level. As I wrote, I did feel a strange connection with C and how it might create specific dimensions as it relates with other vibrations. Even the final E major chord was there as a relationship, a joyous completion of C.

"The number 12 comes from the number of half steps to the octave, although I wasn't thinking that I had to relate C to each different note. There was a sense that I would be passing through them and settling on those that had an inviting relationship with C-- of course, the F-sharp tri-tone was an obvious favorite. I suppose the same thing could have been accomplished with any other note, but I chose C, and there it stands."

### Carleen's Name Music.

Mer Boel's approach to writing a piece for the octet was almost completely different, to say the least. Boel is the "Mama Bear" of her folk group, Water Bear, ([www.waterbearmusic.com](http://www.waterbearmusic.com)) and some time ago she worked out

a system for deriving musical pitches, or "mapping," as she calls it, from the different letters of the alphabet. Of course, this technique has been used by other composers as far back as J. S. Bach, but Boel's system is different. She often takes a person's name and converts the letters to pitches, which she then uses as the source material for her compositions. She calls her style of writing "Name Music," and has written a number of compositions this way.

When R. J. Spear learned of Boel's compositions, he listened to a couple of pieces and liked what he heard. As it happened, Boel had heard of the octet and already had been thinking of writing a piece for the group.

All that remained was to pick a name, which, as Spear admits, was not hard



Mer Boel

to do: Carleen. Boel later wrote a coda for the piece based on the word "octet," so the composition is not only for Carleen's octet, but about it as well. The piece has the unexpected and delightful rhythmic and pitch shifts that occur with this system of composition. It is scored for full octet with the contrabass in low B tuning. There are places for improvised solo for the contrabass and the tenor violins.





# Comparing Violin Resonances

**Duane Voskuil** took his findings on how the resonances of a Stradivari-model violin and a Hutchins mezzo are related to present them at a meeting of the Acoustical Society of America in Honolulu, Hawaii. It was a tough job, but somebody had to do it!



To this upper Midwesterner, Hawaii is an exotic place somewhere out there in the Pacific, so when Carleen Hutchins suggested I go to Honolulu and present my work (finding and comparing violin resonances that bowed strings' upper harmonics match and activate in a mezzo and a Strad-model violin) at the Acoustical Society of America's convention there, I booked my flight and looked for a big-flowered shirt. With December temperatures around zero, I arrived at the Bismarck, North Dakota airport in my down jacket, left it in the car as I ran to the terminal, hoping it would not be needed until I returned. Without any forced landings over land or the hundreds of miles of ocean, the jacket was not needed since Hawaii really is 70 to 80 degrees every day, and very humid—I should have left the suit coat home too.

The joint meeting with the Japanese Acoustical Society was held in the middle of the famous Waikiki beach at the Sheraton hotel. As conventions go it was huge, with hundreds of presentations. Most, as was mine, were only allowed 15 minutes. The range of topics was mind-boggling to one who tends to think of acoustics as related to music. And don't show up without a PowerPoint presentation on your flash drive, and know-

ing less calculus than I. The music sessions didn't completely avoid the lengthy derivations or integrations either.

My fifteen minutes of 'fame' began with some elementary background: Freely vibrating strings have a fundamental frequency and many overtones, but these higher frequencies do not set up a natural harmonic series because of air resistance and internal stiffness. An

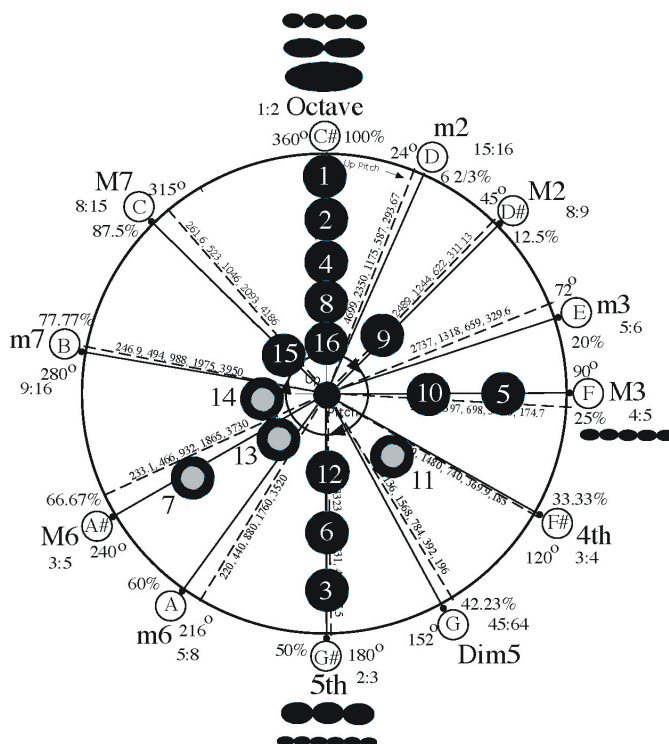
harmonic series consists of the fundamental frequency multiplied by the positive integers, so the first harmonic is the next higher octave (fundamental x 2), the second harmonic is the Twelfth (an octave and a Fifth, the fundamental x 3), and so on. However, as Carleen finally got through to me, a plucked string does not set up an harmonic series, but a bowed string, since it is constantly driven, does produce overtones in an harmonic series.

I have devised graphs that show the 12-tone scale as a spiral on a sphere where each octave is once around the sphere and the octaves spiral ever tighter as they approach the poles, so each of the 12 longitudes

names a different note. Fig. 1 shows the locations of the first 16 partials of middle C# as one looks down at the top of the sphere. Each bowed note will set up its own harmonic series whose frequencies one can easily calculate.

Next I tried to find as many natural body and air mode resonances as I could in an octet mezzo and a typical Strad-model violin. My equipment began to fail me above about 1800 Hz, but I was able to extrapolate a bit beyond that from some air mode frequencies William Allen found and demonstrated at a Catgut Acoustical Society convention in Vermillion, South Dakota. By plotting the equal-temperament notes along a horizontal axis and their just-temperament harmonics vertically, I was able to find where the violins' modes matched these overtones within the Rayleigh wave tolerance of 1.4%. By allowing the modes to be activated within 1.5 times the Rayleigh criterion, and by giving a highest weighted value to matches in the lowest octave and gradually lesser to the next 3 higher octaves considered, I found that the mezzo violin had 68 possible matches with a weighted value of 141 or 12 percent better than the Strad model's 60 matches and weighted value of 124.

Polar graphs with the violins' resonant placements (Fig. 2) show more bowed notes of the mezzo likely to be augmented by the various longitudinal (L), cross-bout (C), ring (R) and body (B) resonances, etc., than the Strad-model's bowed notes since the resonances are more



**Figure 1.** Locations of the first 16 partials of middle C# looking down on the top of the sphere. Each bowed note will set up its own harmonic series whose frequencies one can easily calculate.

spread around the octaves, particularly the two strong resonances, A0 and A1, that are half an octave (a fifth) apart and so are perfectly harmonic complements if activated together.

I pointed out a few ways to control resonant placements, and suggested some intervals that might be advantageous, such as, placing the upper and lower cross-bout frequencies a major third apart, the free-plate mode 1 a fifth below mode 2 and placing B1 a fifth below B0.

The presentation of the logical relationship of notes as spiraling around on a sphere seemed to be new and intriguing to some. One offered another harmonic match to consider, that the 4th harmonic of the open string should match the fundamental

of the string from bridge to tailpiece. No one expressed a belief the presentation was flawed, but neither could I generate any interest in helping to corroborate the data or extend it by finding higher frequency air modes. Yet neither did Hawaii seduce me into wanting to give up my love of contrasting seasonal variety, including the crunching of snow underfoot on a crisp below-zero morning. ♪

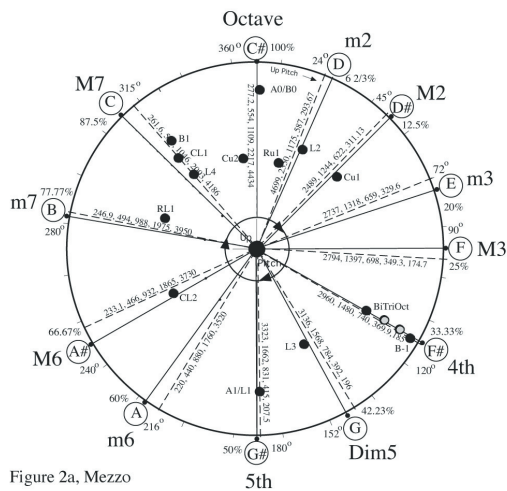


Figure 2a, Mezzo

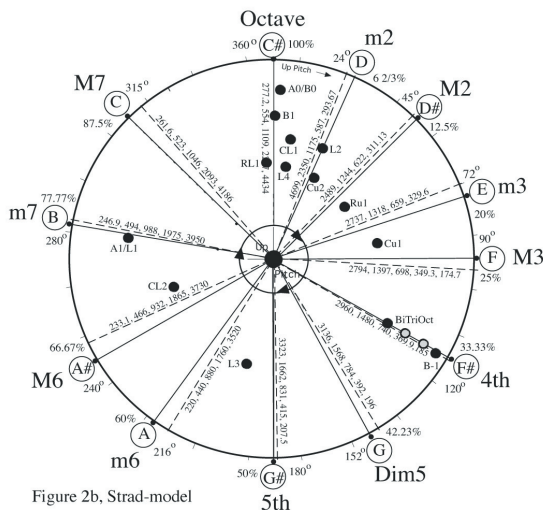


Figure 2b, Strad-model

**Figure 2.** Polar graphs with the violins' resonant placements showing more bowed notes of the Mezzo likely to be augmented by the various longitudinal (L), cross-bout (C), ring (R) and body (B) resonances, etc., than the Strad-model's bowed notes.

## Mstislav Rostropovich 1927 -- 2007

World-renown cellist Mstislav Rostropovich died of cancer in Moscow on April 27, 2007. He was 80 years old and had just retired from a career that many of his contemporaries say made him the greatest cellist who ever lived. Although Slava, as he was called by his friends, had no overt connection to the Catgut Acoustical Society, The New Violin Family, or the Violin Octet, there is a connection of which only a few people are aware, according to R. J. Spear, a violin maker who knew Slava when he conducted the National Symphony Orchestra during the 1980s. Spear, then just starting out in his career as a professional instrument maker, took the first two cellos he made on his own model to Rostropovich for a critique. Much to his surprise, the famed cellist bought one on the spot, but there was more to this choice than meets the eye.

Spear had studied acoustics with Dr. Carleen M. Hutchins in Montclair, NJ during the 1970s, and the two cellos were the first he had made using Hutchins's then-evolving theories of free plate tuning. In fact, one of the cellos had the elusive bi-tri-octave match considered the pinnacle of plate tuning application. The match is so difficult to achieve in bigger instruments that Spear said it was nothing short of miraculous that he attained it on his first try, and that in the 30 years that followed, he has duplicated the feat on just one other cello. Rostropovich selected the octave-tuned cello, and his response and that of several other cellists present at the time was so emphatic that it left no doubt in Spear's mind about the value of free-plate tuning. He says it was a spectacular launch to his career, and that without the acoustical knowledge he gained from Hutchins, he might still be repairing public-school plywood basses.

# Stringing the Treble Violin

**Look** into the Octet's history and ask yourself where the whole project would be without special strings. And nowhere was the need more pressing than in creating an e string for the tiny treble violin. It still is!

## A Short History.

In the early 1960s, the Catgut Acoustical Society (CAS), predecessor of the New Violin Family Association (NVFA), undertook the development of the Violin Octet, a set of eight matched violin-type instruments sized to cover the practical range of written music. The smallest member of this ensemble is the treble violin, an instrument with a body length of about 11 inches and one that is tuned an octave above the standard violin. That this instrument exists at all is a testament to an effective series of compromises between acoustical, structural, and ergonomic considerations made by the original development team, but the ultimate determining factor was finding a string material that could be tuned to e<sup>5</sup> at 1320 Hz without failing.

In the early 1960s, by fortuitous circumstance, other researchers were developing a new, high-tensile-strength wire known as "rocket wire." By adding precise percentages of carbon, and employing a manufacturing process of repeatedly cold-drawing the metal into smaller and smaller diameters, an exceedingly strong material could be obtained. Research abstracts of the time indicate that wire with a tensile strength of 600,000 psi was theoretically possible, but the drawing process endowed

only the smallest wire diameters with the highest tensile strength ratings even though the breaking weight of the wire (in lbs.) diminished as the diameter decreased.

The original wire used for the e<sup>5</sup> string was manufactured by the National Standard Company in Niles, Michigan, and was rated at ~530,000 psi. Many problems with breakage occurred since the steel wire corroded in use. Strings tended to break wherever the slightest corrosion or pitting occurred. This often led treble players of the time to pass notes of warning to each other, and in some cases the threat of such a high-tension string breaking so close to a player's left eye was enough to dissuade some musicians from playing the treble at all!

The breakage problem was temporarily solved by applying olive oil to the string between uses, and permanently solved by coating the wire with a thin layer of brass. Since then, the coated rocket-wire strings have proved quite durable and performed well, but the problem of an excessively short string length remained.

The best compromise for a musical instrument string was found with a wire diameter of .007 inches (.178 mm). Al-

though thinner strings had higher tensile strengths approaching 570,000 psi, they were too thin for musicians to use in typical fashion. The resulting wire could be tuned to the desired pitch, but to stay in the range of 75% or less of the breaking point, it could only span 8.5 inches. This gave the treble violin a string length much shorter than indicated by traditional violinmaking proportions.

## Today's Steel Strings.

The present state of the art seems not much different now than it was forty years ago. National Standard no longer manufactures this type of wire, and world production seems to have been reduced to a few manufacturers. Mount Joy Company (Pennsylvania) now produces rocket wire, but it has a rating of only 470,000 psi. The sole manufacturer making violin strings for the treble violin is the SuperSensitive String Company in Sarasota, Florida, and they are apparently using old stock from National Standard. With the future promotion of the treble violin in mind, this is a troubling circumstance.

Luthier Robert Spear built two experimental treble violins for this purpose. The original treble has a string length of about 8.66 inches (220 mm); the smaller of Spear's two experimental trebles has a string length of 9.75 inches (252 mm); the largest has a string length of 10.5 inches (267 mm). Of the three, the largest is the only instrument constructed in accordance with classical violin proportions. Not many violinists have played it, but those who have prefer it

unanimously to the others due to the ease of fingering in the highest positions and to the surprisingly full bass from a more optimally sized body.

## What Comes Next?

The future of high-tension, high-pitched strings may not lie in steel, but in the super-strong and very technologically advanced composites used in the aerospace industry. There are materials on the shelf today that are strong enough to create a string for a counter-treble violin sounding an octave above the soprano with a top string of a<sup>5</sup> at 1720 Hz! There are still many problems to overcome, such as winding the materials with metal and finding the right combination of string diameter and tension for comfortable playing, but the future looks promising.

In future issues of Violin Octet, we'll keep you abreast of all the latest developments.




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## Next Issue of Violin Octet

We devote the next issue to the octet basses in all their glory. We'll talk about recent developments, new ideas, tunings, transpositions, and composing. We'll also feature helpful ideas about holding and playing the basses. What more would you expect from a newsjournal edited by a former bass player who says that he never heard a note he thought was too low?



## NVFA News Briefs



### Web Site Forums.

Activity in the NVFA Forums continues to increase, but, surprisingly, less of it is due to membership participation than one might think. The increasing prevalence of search engines on the Internet is driving the increase at present, which is not at all a bad thing according to Robert Spear, the Association's Internet liaison. "Some days I will note 15 or 20 visitors browsing our forums," Spear says, but of that number only a few will be registered members. The rest are search engines from all over the world." The indexing performed by the various organizations that send out search engines means that exchanges on the forum become available to everyone in the world with a computer and Internet access. "Someone can post a message in a forum, and within two or three days someone searching for a phrase or keyword can find it on Google. It's a way to promote our organization that we could not buy at any price," Spear says. Only messages in the public forums can be searched. Messages in the "members only" section remain private.

### Organizational Changes.

One of the largest changes ever to occur in the organization took place as the result of the last two Board elections. Joseph F. Conrad becomes President, replacing Paul R. Laird. Frances Furlong moves from Second vice-President to First vice-President, while former First vice-President John Cavanaugh remains as a Director. The

Second-vice-President's position is currently vacant. Ted Jones was elected Secretary, replacing Pamela Proscia, who moves to the Advisory Board. Charles J. Rooney remains as Treasurer.

The terms of Directors Elias Abelson, Daniel Heifetz, André P. Larson, and Joseph Peknik have expired. Abelson and Heifetz have left the Board of Directors, while Larson and Peknik have joined the Advisory Board. Elected to the Board of Directors for the first time are Ellen Carlson, Steve Davis, and Michael Haeger. We thank all departing officers and directors for their contributions to the Association, and wish best of luck to our newest Board members and officers.

### Playing for the World.

The latest NVFA CD project is nearing completion, according to Robert J. Spear, Chairman of the Media Committee. The disc, titled *Playing for the World*, is a compilation of twelve selections recorded during the two recitals and the gala concert held during OCTET 2005, the Association's first international convention. The title of the album comes from a comment made by a person in the audience for the OCTET 2005 Gala Concert.

Spear notes that there were altogether seven CDs worth of material on hand, but that selection of the pieces to be included on the CD was less difficult than he had feared. The pieces were organized by their level of performance and their historical significance, and also by type so that the broadest display of the various New Family violins would be represented. Many pieces

satisfied the requirements of all three categories, and Spear thinks the latest disc will be the best one the Association has ever produced.

The disc, which plays for over an hour, contains solo recital performances by Grigory Sedukh, treble violin; Chien Tan, treble violin; Carrie Hummel, soprano violin; Sera Smolen, tenor violin; and Diana Gannett, small bass violin. There are also duets by treble violinists Sedukh and Tan, and a mezzo violin and tenor violin improvisation by Stephen Nachmanovitch and Sera Smolen. Ensemble performances include a solo by Diana Gannett, bass violin, with the Albert Consort, the Albert Consort alone, and two selections by the Hutchins Consort, one of which contains a contrabass solo by Joe McNalley.

Historical performances include the first treble violin duet ever recorded, the first mezzo and tenor duet ever recorded, and a performance by the largest group of Octet instruments ever gathered in one place to date--almost three full Octets. Spear says that barring any further unforeseen delays, and there have been many, the disc should be at the pressing plant by the time you read this.

### Happy Birthday, Carleen!

NVFA Executive Director Carleen M. Hutchins celebrated her 96th birthday with a party at her home in Wolfeboro, NH on Thursday May 31, 2007. Although Hutchins's birth date is actually May 24, the later date was chosen partly because it roughly coincided with the 50th anniversary of the New Violin Family.

In addition to her duties as Executive Director, Hutchins has also taken on several students who come to her home on Monday afternoons to learn violin making and to study free-plate tuning with the undisputed master of the technique. Hutchins reports that some of the first student violins have been completed in the white, and that they "sound gorgeous." They would not dare to be otherwise!

### Ashley Wood Update.

In the previous issue we reported on the rapid liquidation of Hammond Ashley's extensive collection of wood for violin making, and we noted that much of the wood was sold before the NVFA could raise funds to make an offer. Especially keen was our feeling at the loss of boards for the contrabass, which were sold to makers of conventional basses who will likely cut them down in size.

There is a happy side to this story, however. Dave Wilson, Ashley's partner, saved a number of sets for tenor, baritone, and conventional cello. Wilson told us that this was not picked-over remnants, but wood cut for octet instruments in sizes that did not interest other makers. Thanks to a generous donation from NVFA Directors John Cavanaugh and Margaret Sachter, the NVFA was able to acquire this wood and store it in a large barn owned by the family of Michael Haeger, another Director. In addition, Wilson donated a complete set of molds, templates and other forms for making octet violins, plus a large quantity of willow wood for blocks and linings. Altogether, the material weighs over half a ton!



## Faces and Places



After leaving OCTET 2005 in November, 2005, and playing a concert at the Metropolitan Museum in New York a few days later, treble violin soloist **Grigory Sedukh** and pianist **Sara Crombach** performed a recital of Jewish music on December 10, 2005 at the Liberal Synagogue in Amsterdam. The recital, titled "Orientale," was a tribute to a group of young Russian-Jewish composers who comprised the St. Petersburg Society for Jewish Folk music and whose works had been suppressed in the old Soviet Union after the communist takeover in 1918. Despite a considerable output of music, the music of the Society has been almost completely forgotten.

Sedukh says he likes playing Jewish music on the treble violin, and over time he has made many transcriptions of classic compositions for the instrument as well. Sedukh is presently a member of the St. Petersburg Philharmonic and teaches chamber music at the St. Petersburg State Conservatory.

The **Peabody Quartet** played a seasonal classical music concert on December 2, 2006 at the Andrew Safford House in Salem, Massachusetts as part of the Peabody-Essex Museum's annual Holiday Festival. The quartet is comprised of NVFA Director Dr. Robert Nersasian and Catherine Stanton, who played mezzo violins, Stephen Grasberger, viola, and Meredith Browne, cello. The octet instruments made available for the concert were received by the players with mixed reviews. Grasberger felt he did not have enough time to learn how to play



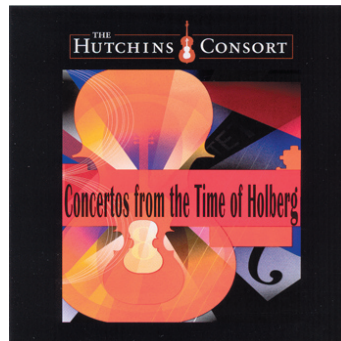
the alto violin well, although he did play several selections on the vertical instrument. Cellist Browne also had a hard time adjusting to the baritone and ended up playing the entire concert on her standard cello.

Nersasian says that the initial reactions of the musicians are not unusual. "Every musician does that at first. It's hard to pick up something different." Stanton agreed, saying, "They're very beautiful instruments, but you have to spend more than two weeks learning how to bring that beauty out of them."

### New Hutchins Consort CD.

The Hutchins Consort has released its second CD, "Concertos From the Time of Holberg." Featuring music from the Baroque, or music of more modern masters inspired by the music of the Baroque, there

are 20 tracks of well-played music to delight the ear. The CD is available directly from the Hutchins Consort web site, [www.hutchinsconsort.org](http://www.hutchinsconsort.org), or from the online CD store, CD Baby, [www.cdbaby.com](http://www.cdbaby.com).



Consort founder Joe McNalley says the latest album represents plans for "theme albums" in the future. For this, the first in the series, the compositions by Sweelinck, Corelli, Torelli, and Zavatieri are all Christmas music. McNalley says, "The Zavatieri is

an under-represented piece in recordings . . . It is a very good piece in the Bolognese tradition. I personally like Bolognese music for NVF instruments because the San Petronio orchestra used a lot of strings--viola da spalla (tenor-size violin), various violones, etc. They liked a balanced orchestra, not the top-heavy orchestra we are accustomed to today."

Other exciting news comes to us from our friends in California, including a potential concert this fall featuring a new piece to be written by the father of the violin octet, Henry Brant. While details have not yet been worked out, Brant is contemplating a piece written for full octet and two conventional violas by Carleen Hutchins. The violas are now with luthier R. J. Spear for setup and adjustment, and will be shipped to California at the end of the summer. 🎵



The **Carpe Diem String Quartet** is shown playing a concert at the Bexley Public Library in Columbus, Ohio. Since the concert was given on April 1st, the group played Haydn's "Joke" Quartet, among other more serious works. As an encore, they had another joke in store, playing a movement from a Mozart Quintet with Wendy Morton, assistant principal cellist of the Columbus (OH) Symphony Orchestra (CSO) playing the second viola part on her recently purchased alto violin. The missing cello part was played by her husband, Mark Morton, the CSO's principal bassist. Other players are (from left) CSO Concertmaster Charles Wetherbee, first violin; Robert Firdman, second violin, and Korine Fujiwara, viola, also members of the CSO. Our thanks to NVFA member and CSO assistant principal violist Brett Allen for contributing this information, and to Carpe Diem for permission to use this picture. 🎵



## Announcements & Advertisements

### Playing for the World



Music performed on instruments of  
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### Classified

#### For Sale

17 3/16" Viola by Carleen  
Hutchins 1978. Powerful for  
solo playing, but sweet. Asking  
\$20,000. Randall Verner  
<fhr@earthlink.net>

Alto Violin by Robert J. Spear  
2003. Hutchins model. Excellent  
condition, very powerful. Re-  
gret that I need to sell. \$12,000.  
Neil Thompson Shade.  
<neil@akustx.com>

Viola by Carleen M. Hutchins  
SUS #30, 1955. About 16" body  
length. Comes with Albert Nurn-  
berger bow. May be viewed in  
Boston or by arrangement in  
New York. Alan Zaslavsky 617  
868 3537 evenings; 617 432  
2441 days.  
zaslavsky@hcp.med.harvard.edu

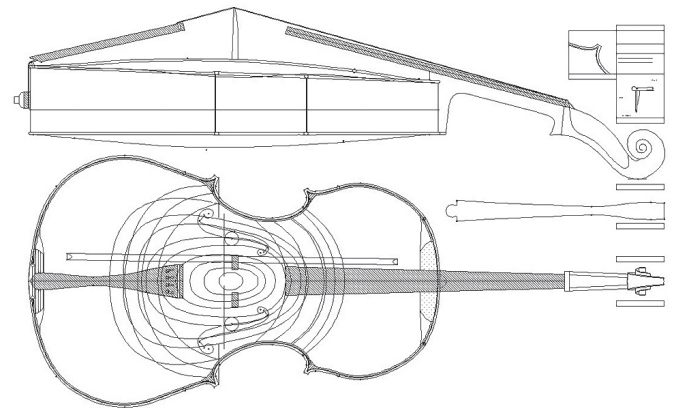
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#### Reduction of plan for contrabass



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- \* A plate tuning experiment
- \* Retrospective on plate tuning
- \* List of available music
- \* Guide for copying parts
- \* New Family Brochure
- \* Hutchins Consort brochure
- \* Met Museum Concert
- \* All back newsletters--  
six complete issues
- \* Plate Tuning for the maker
- \* Mode tuning & plate stiffness
- \* Tuning the B0 mode
- \* Research briefs for makers
- \* Free plate frequencies
- \* Tuning the bass bar I
- \* Tuning the bass bar II
- \* Strings for the octet
- \* Using wolftone suppressor
- \* Reference articles from  
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## Letters to the Editor

### Normal Modes.

There is one significant correction to the sidebar on page 3 about normal modes [vol. 2, no. 5]. The "normal mode" appellation comes from a mathematical process to see if one mode is orthogonal ("perpendicular") to another. A better way to think about this is to look at a system with three orthogonal axes, X, Y, and Z [left/right, forward/backward, and up/down --ed.] Motion along any one axis does not change your position along the other two axes and is independent of them. I cannot generate motion along the X axis by moving along the Y or Z axes separately or together.

This is the concept behind normal modes: each mode is entirely independent of all the others, and no mode can be generated by combining other modes.

Normal modes in a linear system like the violin are dependent on the material stiffness, density, and shape properties. If you build a good computer model that has the correct material properties and mirrors the shape of the violin in all its parts and how parts are attached to one another, you can calculate the normal mode shapes and frequencies. This is the only way the violin's vibrational behaviors can be reliably predicted, and the only way in physics to go between materials and modes for such an entrancing yet unforgiving shape!



-- **George Bissinger** is a professor of physics at East Carolina University.

Our Webster's Collegiate Dictionary, 4th edition, defines "mode" as a "manner of being," and "normal" as "corresponding to the average of a large group in appearance and function." In math, "normal" refers to a perpendicular. The term even crops up in drafting, where a horizontal line is "normal" to a vertical line. What we wanted to say is that what a particular violin does under given circumstances is what other violins would do under the same circumstances.

Bissinger's designation of "normal mode" is technically a "term of art," which is a word or phrase that has a limiting and definite meaning in some science or art. There is much confusion here since the word in one case is used inclusively and in the other it is used exclusively, leaving one of the parties involved with no good way to describe something!

We herewith challenge our readers to devise a word or phrase that we can use to describe the condition noted without ruffling the feathers of any highly valued modal analysts. We thank Dr. Bissinger for writing and for his continuing interest in our work.

### NVFA Newsletter

The renewal time has come for the NVFA Newsletter. But the price is now \$50 and for that, I would like to know if future editions will continue to rehash octet performances and reprint Catgut Acoustical Society (CAS) articles, or will there be significant new technical material printed?

If each issue of the *Violin Octet* were to have two new quality technical articles at the level of the old *CAS Journal*, then I would feel the price justified.

My wife and I are building a new retirement house and shop, and when completed, I want to use the quintet pattern that R. J. Spear described in the last *CAS Journal* to start my set. Will you publish more of these developments in the *Violin Octet*?

... the Violin Octet is the future of stringed instruments, but it will take another 50 years to educate and develop the musicians for the public to enjoy the work of Carleen Hutchins and all of the others who have worked in semi-heated garages to develop these beautiful instruments.

-- **Allan B. Lewis** will soon be working in splendid new surroundings in Dike, Tx.

Mr. Lewis's letter touches on many points that other readers have raised. With regard to the \$50 membership rate, I can only say that we have struggled to keep our dues as low as we can, and that your membership gets you the entire organization in addition to the newsletter. Having a diverse membership makes it necessary to have diverse newsletter content. However, the point about the lack of scientific and technical articles Lewis raises is well taken. For that we need more submissions from qualified researchers and luthiers, and such are always welcome. On a personal note, hold off on using the quintet patterns since these were experimental. I hope to publish results of the second set here when they are available. Thanks for the kind words, and thanks for writing.

### More on Alto Fingerings

You may be right about the need for cello-sized AND viola-sized string lengths for the Alto. An alto showed up at a Columbus Symphony rehearsal the other

day. I gave it a try. The thing is, it is not altogether easier for cellists to adapt to it (as I had assumed) because of the compressed string length. The left hand was not so much of a problem for me, although I would have to add thumb position to my bag of tricks, as well as develop a slower, wider vibrato. (For those who don't know me, I play viola.) Bowing, however, is a bear. For the vertical violist, that takes work.

I have been practicing on my own 16 & 1/2" viola, [a traditional viola by Carleen Hutchins] playing it gamba style. Not a bad idea if you don't have an Alto. Incidentally, Stephan Sanderling was guest conducting that week and took great interest in the proceedings. I gave him some ancient literature I have kept on the subject and he made copies for himself.



--**Brett Allen** is a professional violist and longtime supporter of the New Violin Family.

Your comment about the right hand being more of a problem than the left fits well to the comments I get from other viola players coming to the alto. One young lady did very well with fingering and intonation on the alto, but struggled to the last with bow hand and grip. This person subsequently joined an early music group where she played bass gamba vertically, as usual, but had to learn how to bow with the underhand grip. Oddly, once she did this, her problems with the overhand grip on the alto mostly cleared up. There really is a series of mental processes to work through!

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## Imitation or Deception?

There have been a number of musicians performing on what are claimed to be alto violins or baritone violins, and so on. Recently, the owner of a store in Meredith, NH listed what he called a "vertical viola" on ebay, the popular Internet auction site. Another store has been advertising a 5-string "mezzo" violin. Of course, this and other terms like "soprano" or "tenor" cannot be trade marks since they are common musical terms. Some of these other instruments, such as the so-called "baritone violin", use trick strings to achieve their sound. In some cases, the output of a microphone is run through electronic equipment that shifts the pitch up or down by one or more octaves. Voila! A violin that sounds like a bass!

That said, however, terms like "baritone violin," and especially "vertical viola," have been closely associated with the Catgut Acoustical Society and the New Violin Family for nearly 50 years. The instrument for sale on ebay was certainly not a vertical viola or even an alto violin; at best it was someone's idea of how to trade upon the work of others. An individual might purchase that modified cello thinking he was getting the genuine item, while others might be led to believe that the instrument embodies and typifies the results of half a century of acoustical research. Without the correct rib heights and thicknesses, the use of free-plate tuning, and the critical placement of the main air and body modes made certain by a luthier who is well-trained in the system, this so-called "vertical viola" will never even remotely sound like the real alto violin.

To ensure that you purchase the genuine item, check the NVFA web site <[www.nvfa.org](http://www.nvfa.org)> for a list of luthiers who can advise you. A viola is not an alto violin, and the particular "vertical viola" on ebay is just a child-size cello fitted with viola strings. 

## Violin Octet Newsletter

is published twice each year by The New Violin Family Association, Inc. (NVFA) 42 Taylor Drive, PO Box 987, Wolfeboro NH 03894.

The NVFA encourages the distribution and dissemination of information about the new violin family octet, performers, composers, and luthiers. Permission is granted for fair use of any material appearing in the newsletter with proper attribution of its source. Please notify the editor when making such use.

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### Annual Dues.

\$50

### Duration.

Membership runs with the calendar year from January 1 through December 31.

### New Members.

If your payment is received on or before September 30 of a given year, you are considered a member for that year. You will receive all materials, newsletters, etc., for that year.

If your dues are received on or after October 1 of a given year, you are considered a member for the entire following year and your membership benefits will commence on January 1.

### Renewing Members.

Membership renewals are due by January 1. There is a 60-day grace period. Any member whose dues are not received by March 1 will be considered in arrears.

### Payment.

Payment may be made by check payable to the "New Violin Family Association" and sent via U.S. Mail. We also accept MasterCard and Visa either by mail or by phone. The payment form on our web site <[nvfa.org/membership.htm](http://nvfa.org/membership.htm)> is always available. Web payments go through our PayPal account, and foreign members should note that PayPal handles currency conversions automatically.

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## The Lone Ranger Rides Again!

### (A Letter from the Editor)

**The individual artist and the association working together accomplish more than either does working separately.**

Dear Reader,

As this, the 6th issue of our newsletter, goes into the mail, I remain impressed by two things: first, by how much octet activity is going on, and, second, by how difficult it is to find out about most of it. When I assumed the editor's duties more than four years ago, I told Carleen Hutchins I didn't think we'd have enough material for a publication half this size. I sure had that wrong!

That said, however, this editor has found that shovels, pry bars, and a few sticks of dynamite have become essential tools of his trade. This odd state of affairs is caused by the rides of the Lone Rangers, and it refers specifically to a trend I see for many individuals and groups involved with the octet effort to operate in isolation or to conduct themselves as if they are the only ones bearing the flag. Individual effort is one thing, and it should not be discouraged, but going it alone is quite another. I point this out not to whine about how hard my task is, and not to rant over unresponsive correspondents, but to express as plainly as I can why I think this is not a good idea.

The future of the violin octet will be decided in the next few years, but probably not by the people you think. Of course, the executives, officers, and board of the New Violin Family Association will be doing all that they can to ensure the future of the octet, but the trend of the effort is now toward broadening the acceptance of octet instruments in every part of our musical

landscape, rather than research and development, which represents a great departure from the goals of the group when it was the Catgut Acoustical Society.

The rather close-knit effort of acousticians, physicists, composers, musicologists, musicians and instrument makers that characterized the effort during the first forty or so years has begun to fade from the scene. It is on the one hand encouraging to see a new generation beginning to replace the old, but it is a bit discouraging to observe that these organizations and individuals tend to be scattered about, and too many function anonymously or autonomously.

I was surprised that many of our new colleagues do not belong to the New Violin Family Association, do not know of the history or the people behind the octet instruments, and do not even know of each other. It gives me pause to realize that these Lone Rangers are the people who will make or break the octet concept in the near future, whether we veterans like it or not.

#### Some examples.

Suppose someone presents a concert on an octet instrument. A fair number of people show up, the performance goes well, and all involved consider the event a success. But is it? Had they coordinated with the national association, announcement of the concert could have been placed on the association's web site. When the Albert Consort performed two closely spaced concerts in Ithaca and Binghamton (NY) a few years

ago, they placed an announcement on the 'Coming Events' page of the NVFA site. It was done almost as a joke because no one expected it would have any effect. To their surprise, their audience included a gentleman from North Carolina, a gentleman from Maryland, and a couple from Toronto, all of whom had seen the events calendar of our newsletter or our web page. Such events really emphasize how individual artists and the association working together accomplish more than either does working separately.

Another example occurred recently when Silvio Dalla Torre, a bass virtuoso from Rostok, Germany, commissioned an Octet small bass from luthier Joris Wouters in Belgium. Dalla Torre had been searching for months to find someone who could make an instrument that could be tuned in fifths, but he might still be looking had he not seen Wouter's name listed on the Luthier's page of the association's web site. The bass turned out so well that another player has ordered a second bass from Wouters. Cooperation pays, in every sense of the word.

If you can understand why such events cause us so much joy, you can probably understand how disappointed we felt when we discovered that two octet instruments had been used in two separate solo performances with professional symphony orchestras, and we didn't find out about them until the performances were over. Or when we learned of the gentleman who had quietly made more alto violins than

almost anyone we know of yet knew nothing of plate tuning and labored in isolation. His work did not turn out as well as it could have, and we, in turn, were of absolutely no help to him at all. The Lone Rangers ride again, but do they really know where they are going?

We hope there will come a time when octets and new family instruments are so well integrated into our musical life that an organization like the NVFA will be superfluous. Lone Rangers then can ride anywhere they want because there will be so many of them they can't possibly be alone any more. That day is not yet here.

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We welcome submissions for articles, Letters to the Editor, Luthier's Workbench, and Lighter Moments. Please include your name, address, and a small photo of yourself (digital format preferred). Send concert and event notices to <rjspear@zoom-dsl.com> or PO Box 6562, Ithaca, NY 14851.



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*The NVFA Forums have been operational for over a year. If you haven't participated yet, we invite you to follow the forum link from our web site home page <[www.nvfa.org](http://www.nvfa.org)> and see what's going on. Most forums can be browsed, but to post you'll need to register with board. It's very quick, and it's free! We're sure you'll find a forum of interest! Here's sample exchange from the Luthier's Forum.*

**Robert Spear (USA. New York):**

In a recent exchange in the varnish forum, Joris mentioned that he seals his free plates with clear varnish before finishing his tuning. He says that it is remarkable how much the modes will rise. It sounds like a real good idea, actually, and I was wondering if anyone else has done it. In particular, does the rise in frequency hold, or over time does it drop again by some amount? This phenomenon may explain why a couple of instruments I made that didn't match because mode 2 was too low ultimately turned out to sound very good.

**Joris Wouters (Europe. Belgium):**

Actually I tried it quite a few years ago, and since it made such difference I have done so ever since.

On the other hand, I found that the bigger the instrument, the less difference it makes. As for the small bass I made, it hardly had any effect at all. I think this is because the vibrating area is too big to be significantly affected by varnishing.

I'm convinced it does have an effect on big instruments, but probably not on the way I am checking it / or am able to measure.

**Alan Carruth (USA. New Hampshire):**

Certainly the varnish should have some effect. I guess the questions are: 1) how much does it take to get most of the result, and 2) what's the best way to go about it? One rule of thumb I've heard is that it's the first two coats of whatever that do most of the work. Any input/gut feeling on that?

I've been using a French polish fill, with seedlac or a terpene/seedlac mix in alcohol, and pumice as a grain filler. Often I'll use a light wipe of walnut oil first, which gives a nice look. I build a fair amount of pumice, a la the Barlow/Woodhouse findings. I would guess that this would have most of the effect on the varnish, but without comparative data who can tell? At any rate, I'd expect any change to be much greater in the top than in the back.