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## Front Porch #2

### The Hutchins Consort: An Unusual Family of Violins

Written by Paul Hornmick

"These are marvels of engineering," says Joe McNalley. He points not to semiconductors or the workings of an engine, but to the violins of his ensemble. McNalley is the founder and artistic director of the Hutchins Consort, the ensemble he founded to perform on the New Violin Family, developed by the late Carleen Hutchins.

The New Violin Family is a series of eight violins ranging in size from a behemoth bass violin that is about a third larger than a normal concert double bass, to the treble violin, which is so small that it is hard not to think of as a toy. These new violins are made of the same kinds of wood and other materials as traditional violins, and, at first glance, resemble the familiar instruments of the violin family, with ribs, F-holes, and scrolls, but they are a departure from the violin tradition in a grand way.

Compared to other instruments, the violin has been around almost forever. When Stradivarius and Guarneri were crafting their masterpieces in the early 1700s, what we think of as the violin had already been played in the cities and villages of Europe for almost 150 years. In the 18th century some modifications were made, most notably in the angle and length of the neck; gut strings were replaced with metal to increase the volume of the instrument. Besides these modifications, violins, violas, and cellos have remained unchanged over the decades and centuries. The stringed instruments that premiered the works of Beethoven and Schubert are not much different than the ones found in today's concert halls. So for a violin maker such as Hutchins to create a whole new kind of violin, a whole family of new violins, is all the more striking.

Certain problems have always remained with the violins. For the lower-voiced instruments of the family - the viola and cello - projection and volume have been difficult at times. Additionally, the voices and timbres of violins, violas, cellos, and basses were not developed to have an equal voice or to blend as a single unit. Hutchins designed her octet of strings to project better and be acoustically balanced throughout the entire musical range - all the instruments having equal timbre and volume. The instruments are balanced with each other throughout the entire musical range. The lowest voiced of the eight instruments is the contrabass violin, which is tuned the same as double bass. Following is the bass violin, tuned a fourth higher. The baritone violin is tuned as a cello; thereafter all the violins are graduated in half octaves up to the treble violin, which is tuned an octave above a standard violin. The deeper voiced instruments retain the same body shape of the violin. Their shoulders are not narrowed or sloped, as on a cello or bass, and their ribs are noticeably shorter. Despite being about the length of a small guitar, violists have played Hutchins alto violin under the chin. Cellists who have played the instrument place the instrument between their legs and rest it on a long endpin.

Hearing the instruments, most people are surprised as to the volume produced by the eight instruments. The octet's mezzo violin, which corresponds in tuning to a regular violin, can be as loud as three of the traditional instruments. An ostinato played on the contrabass can give the impression that timpani is doubling the line behind the stringed instrument. And the compatibility of timbre increases the overall voice of the ensemble, blending to produce a choir-like richness. McNalley says the consort is "like an organ made of strings, like one super instrument." With just eight instruments the consort can achieve the volume of a chamber orchestra, with the soprano and treble violins adding brightness not normally found in a string ensemble.

A few composers have written music for the new violins. Composer Gordon Jacobs composed a piece called "Aphorisms" for the octet, and a recent concert included "Octet Comparsas," written for the consort by Kevin Walczyk. The consort's bassist, Fred Charlton, whose influences go from Bach to Zappa, also composes pieces for the ensemble. The consort's 2004 season saw the premier of his composition for the New Violin Family and the Native American flute. A great deal of the rest of its repertoire are transcriptions, much of what you might expect from a chamber ensemble, of compositions by Bach, Haydn, Dvorak, and Brahms, and modern compositions from Arvo Pärt and others. McNalley transcribes about 80 percent of the material, with the rest taken up by Charlton. Charlton says that because there are eight voices he adds lines when he transcribes from a quartet composition. "It's like Ravel's orchestral version of Mussorgsky's 'Pictures at an Exhibition,'" he says. "You have to think of it as creating an entire new piece."

Although clearly in the classical tradition, the Hutchins Consort doesn't see itself as a bunch of stuffed shirts who play highbrow music. Their repertoire includes transcriptions of Ennio Morricone film music and jazz interpretations, such as Dave Brubeck's "Blue Rondo à la Turk." Many of the consort members have backgrounds in jazz, and this material gives them a chance to use their chops and improvise. Bridging that gap between classical and pop is the octet's interpretation of Queen's "Bohemian Rhapsody," which they perform with a soprano singing the part of Freddie Mercury.

The only ensemble to perform with the instruments of the New Violin Family, the consort is presently involved in a five-concert series at the Neurosciences Institute in La Jolla, as well as other concert venues in Southern California. They also put on a free concert every second Saturday of the month at the Encinitas Public Library to crowds that fill the facility's auditorium. Touring has taken the consort to the Midwest and Italy. Most recently the U.S. State Department sponsored the consort as they took part in an extremely successful musical festival in the old colonial town of Alamos Sonora, Mexico.

Often with performances of other string ensembles the music is chosen from a single musical period, but a performance by the Hutchins Consort might be titled "A Big History of Music." A recent program included a selection of Vivaldi's "Four Seasons," a new composition from Charlton, and transcriptions of compositions from jazz iconoclast Charles Mingus. And they aren't afraid of having some fun and encouraging the audience to join in. During the performances at the library, it is not unusual to find children dancing in front of the ensemble or to see Chris Woods, the treble violinist, clowning around with the kids. They will often throw in a few surprises, too. What starts off as Mozart's "Eine Kleine Nachtmusik" can turn into the theme of the TV show "Mighty Mouse," with the consort members chiming in with "Here I come to save the day!"

The New Violin Family is the work of a former science teacher and woodworker who, at the age of 40, may not have imagined that her life's work lay ahead of her. In her mid thirties, married with a family, Carleen Hutchins joined some friends to play chamber music. She bought a viola, because her trumpet was unsuited for the small ensemble. Thinking her new instrument inferior, she determined to make a better one. She spent hours with books and blueprints, and two years later she produced her first instrument.

She met luthier Karl Berger and showed him the viola she had made and the improvements that she had made to the design. He took her interest seriously; the two started a period of work and study that lasted five years and produced 35 instruments. Hutchins then made the acquaintance of Frederick A. Saunders, a Harvard physicist who had started researching the acoustics of stringed instruments in the 1930s. The scientist had run hundreds of instruments through an analyzer that would record the amplitude and frequency of the instruments' harmonics. Speaking decades later, Hutchins traced the beginnings of her octet to the research that Saunders had done.

Saunders continued his work with violins, but his research was restricted to the violins that musicians would bring him. Hutchins carved wood and instruments specifically for his experiments. She fashioned a "Swiss Cheese Violin," an instrument with a number of holes in the ribs that could be plugged and unplugged for acoustic tests.

In 1957 the composer Henry Brandt suggested the idea of an octet of violins to Hutchins. Building on her and Saunders' work, Hutchins took up Brandt's suggestion and commenced a campaign that would involve over 200 researchers, musicians, and sponsors. The first complete set of the New Violin Family premiered in 1972. Hutchins continued tirelessly with her instruments and research for decades thereafter. She produced over 200 violins, violas, and cellos, and more than 100 instruments of her octet family. She published over 100 articles about her violins and research, some of which have appeared in the pages of Physics Today and Scientific American. Her work earned her four honorary doctorates. Her dedication and determination never wavered; in 2004, at the age of 93, she talked about planning the next ten years of her work. Hutchins passed away in August of last year.

The Hutchins instruments are an advancement of sorts for the violin, but they also present their own challenges. Normal violin strings broke under the tension needed for the tuning of the highest string on the treble violin. For a solution the consort turned to Bell Laboratories; the scientists there developed a very strong string out of a titanium alloy just for the high-voiced violin. Igor Tchetchko, on soprano violin, says that it is sometimes difficult adjusting to the range of his instrument. The music is written for a regular violin but played a fifth higher. "It can get confusing because the pitches are not where they should be," he says. The increased responsiveness and capacity for greater volume of the octet mean that the musicians need to be careful. Soft passages can sometimes come across louder than intended.

The genesis of the consort goes back to 1983, when McNalley was a student at UCSD studying under Bert Turetzky. That year Hutchins brought out one of her octets for a meeting at UCSD of the Catgut Acoustical Society, the organization she cofounded to further violin research. After the meeting, the octet stayed at UCSD without an ensemble to play them. McNalley recognized their potential and often used the octet's contrabass for his orchestral work. In 1999 he approached other string players who were playing in the southern California area to form the consort, choosing members for their personal strengths and backgrounds as well as their musicianship.

The consort members think of their instruments as an addition to the string family, not new models to replace the old. They are nonetheless excited about their work and anticipate a growing audience for themselves and their instruments. The ensemble is also reaching out to the next generation. With newly constructed instruments the ensemble is on the verge of creating the first student ensemble to perform on the Hutchins Octet. "We're really working on awareness," says McNalley, as he plans more seasons and tours for the Hutchins Consort.

*Don't miss the Hutchins Consort play live on Saturday, April 10 at the Neurosciences Institute, 10640 John Jay Hopkins Dr., La Jolla, 7:30pm.*



The Hutchins Consort, current lineup of players