

Carleen Hutchins, Innovative Violin Maker, Is Dead at 98



Hutchins Archive

Carleen Hutchins built the new violin family, instruments proportional in size and pitch.

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Published: August 8, 2009

In the mid-20th century, when Carleen Hutchins was at the height of her career, it was unusual enough for a woman to make violins. It was even more unusual for a violin maker to conduct hands-on acoustic research, harnessing technology so that modern hands might build instruments to rival the work of 17th- and 18-century masters.

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But Mrs. Hutchins did something more unusual still. Working intently and noisily in her home in Montclair, N.J., she helped reimagine the idea of what a violin could be.

In the process she designed and built an entire family of violins, eight instruments proportional in size and pitch known collectively as [the new violin family](#) or [the violin octet](#).

The new violin family, its enthusiasts say, not only extends the range of the traditional violin family, but it also corrects the acoustic imbalances among its members that have bedeviled composers and players for generations. A consort of acoustically matched instruments, Mrs. Hutchins's family spans more than seven octaves while maintaining the timbre of a violin throughout.

Mrs. Hutchins died on Friday at 98. The death, at her home in Wolfeboro, N.H., where she had lived recently, was confirmed by her daughter, Cassie Coons.

Internationally known for her work in violin acoustics, Mrs. Hutchins received a [Guggenheim Fellowship](#) and was often in the news. The cellist [Yo-Yo Ma](#) recorded Bartok's Viola Concerto using one of Mrs. Hutchins's alto violins.

(The instrument has the register of a viola but is played vertically, like a cello.) The recording, with the Baltimore Symphony, appears on Mr. Ma's CD "[The New York Album](#)" (1994).

From 2002 to 2003, Mrs. Hutchins's octet was the subject of an exhibition at [the Metropolitan Museum of Art](#) in New York. Titled "[The New Violin Family: Augmenting the String Section](#)," it also included performances by [the Hutchins Consort](#), a California ensemble featuring all eight instruments.

Mrs. Hutchins, who began her professional life as a high school science teacher, was a respected maker of conventional violins and violas before she began work on the octet in the late 1950s. It was an unorthodox choice in an already unorthodox career, but unorthodoxy had always suited her.

Carleen Maley was born on May 24, 1911, in Springfield, Mass., and reared in Montclair. In high school she played the [trumpet](#), a brazen choice for a young lady in the 1920s. At [Cornell](#), she studied [entomology](#), graduating with a bachelor's degree in biology in 1933. In 1942, she earned a master's in education from [New York University](#) and the next year married Morton Hutchins, a chemist.

Mrs. Hutchins was teaching at [the Brearley School](#), a private girls' school in Manhattan, when she was invited to join a faculty chamber music group. Her trumpet proved far too loud, and she was urged to take up the [viola](#). She bought one for \$75 and learned to play it.

Before long, Mrs. Hutchins became frustrated with her viola's limitations. An accomplished woodworker, she vowed to build a better one herself. Armed with a book and blueprints, she did so, though it took her from 1947 to 1949. She later studied with several prominent violin makers.

In the late 1940s Mrs. Hutchins began a long association with Frederick A. Saunders, a Harvard physicist who was studying violin acoustics. Few musicians would subject their instruments to his ministrations, so Mrs. Hutchins built violins he could literally pick apart.

A violin is a box of air. Its bottom and sides are maple, its top spruce. Through trial and error the great masters like Stradivari could coax the box to sing in amazing ways. Professor Saunders wanted to discover just what made those boxes sing.

Before long the basement of Mrs. Hutchins's home in Montclair was awash in oscilloscopes. With several colleagues, she founded [the Catgut Acoustical Society](#), dedicated to the study of musical acoustics, in 1963.

Mrs. Hutchins's greatest innovation, used by many violinmakers today, is a technique known as free-plate tuning. When not attached to a violin, the top and back are called free plates. Her technique gives makers a precise way to refine these plates before a violin is assembled.

Covering the free plates with tiny particles (she found that Christmas glitter worked well), Mrs. Hutchins used a loudspeaker to emit a tone that set them vibrating. Dispersed by the vibrations, the particles made patterns that told her just where to shave away slivers of excess wood. This made the plates light, elastic and vibrant in all the right places, creating an excellent sound.

In the late '50s, at the request of the American composer [Henry Brant](#), Mrs. Hutchins began work on the new violin family. The old violin family is somewhat dysfunctional. Its members — violin, viola and [cello](#) — evolved in ad hoc fashion, and as a result differ greatly in timbre. (The modern string bass is descended from a different genealogical line altogether.)

Unveiled in the mid-'60s, the new violin family ranges from a tiny treble violin, an octave higher than a conventional violin, through a 7-foot-tall contrabass.

Each instrument is pitched just half an octave from the next, filling the gaps in timbre. [In performance, the consort creates an even, densely interwoven tissue of sound](#), almost like choral music without the words.

Mrs. Hutchins made six full octets over the years; her disciples have made several more. Some are in museum collections, like those of the Met, [the University of South Dakota](#) and [Edinburgh University](#).

New [music for the octet](#), and arrangements of old music, have been recorded by the Hutchins Consort and others. Composers who have written for the octet have included Mr. Brant and Frank Lewin.

Besides her daughter, Mrs. Coons, Mrs. Hutchins is survived by a son, William, and six grandchildren. Morton Hutchins died in 2004.

Mrs. Hutchins was known for her pragmatism. In 1957 her friend [Virginia Apgar](#), a doctor and amateur violinmaker, began to covet a shelf made of perfect maple. The shelf was in a [phone booth](#) in the medical school of [Columbia University](#), where Dr. Apgar taught.

One night she and Mrs. Hutchins stole into the building with some tools and a replacement shelf, stained to match. As Dr. Apgar stood guard, Mrs. Hutchins set to work. To their dismay, the new shelf was a quarter-inch too long.

Mrs. Hutchins had a saw, and there was a ladies' room nearby. [As The New York Times reported afterward](#), "a passing nurse stared in astonishment at the sounds coming through the door."

Dr. Apgar could think quickly. (She had, after all, devised [the Apgar score](#), used worldwide to measure the health of newborns.) "It's the only time repairmen can work in there," she said.

Spirited out of the hospital, the shelf made a magnificent viola back.

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