

Secrets Of Stradivarius' Unique Violin Sound Revealed, Texas A&M Prof Says



COLLEGE STATION, Jan. 22 – For centuries, violin makers have tried and failed to reproduce the pristine sound of Stradivarius and Guarneri violins, but after 33 years of work put into the project, a Texas A&M University professor is confident the veil of mystery has now been lifted.

Joseph Nagyvary, a professor emeritus of biochemistry, first theorized in 1976 that chemicals used on the instruments – not merely the wood and the construction

– are responsible for the distinctive sound of these violins. His controversial theory has now received definitive experimental support through collaboration with Renald Guillemette, director of the electron microprobe laboratory in the Department of Geology and Geophysics, and Clifford Spiegelman, professor of statistics, both Texas A&M faculty members. Their work has been published in the current issue of the scientific journal Public Library of Science (PloS ONE).

“All of my research over the years was based on the assumption that the wood of the great masters underwent an aggressive chemical treatment and this had a direct role in creating the great sound of the Stradivarius and the Guarneri,” Nagyvary explains.

Nagyvary obtained minute wood samples from re-

storers working on Stradivarius and Guarneri instruments (“no easy trick and it took a lot of begging to get them,” he adds). The results of the preliminary analysis of these samples, published in “Nature” in 2006, suggested that the wood was brutally treated by some unidentified chemicals. For the present study, the researchers burned the wood slivers to ash, the only way to obtain accurate readings for the chemical elements.

They found numerous chemicals in the wood, among them borax, fluorides, chromium and iron salts.

“Borax has a long history as a preservative, going back to the ancient Egyptians, who used it in mummification and later as an insecticide,” Nagyvary adds.

“The presence of these chemicals all points to collaboration between the violin makers and the local drug-

store and druggist at the time. Their probable intent was to treat the wood for preservation purposes. Both Stradivari and Guarneri would have wanted to treat their violins to prevent worms from eating away the wood because worm infestations were very widespread at that time.”

Antonio Stradivari (1644 – 1737) made about 1,200 violins in his lifetime and sold them only to the very rich, primarily the royalty. Today, there are about 600 Stradivarius violins remaining and they are valued at up to \$5 million each.

A lesser-known contemporary of Stradivari, Guarneri del Gesù, like the painter van Gogh, had trouble selling his work, but his instruments are now considered equal in quality and price by experts to Stradivarius violins.

Nagyvary, a native of Hungary who learned to play

the violin by using an instrument that once belonged to Albert Einstein, has wondered for decades how Stradivari, with his rudimentary education and no scientific training, could have produced musical instruments with such an unequaled sound.

“These current research results are highly gratifying for me because they prove what I first proposed 33 years ago, that – contrary to common wisdom – the wood of the great masters was not natural (unadulterated) but chemically treated by certain minerals, some of which I had predicted at the outset. Based on my lifetime experiments with similar chemicals, we have reason to believe that they could have played a major role in the great tonal refinement of the antique instruments,” Nagyvary says.

“When you use science to prove a point, it often de-

mystifies the glory of the legendary masters, and for that reason, there has been some reluctance to get to the truth. To have undeniable scientific proof that supports my work is very satisfying, to say the least.”

Nagyvary said he believes the current findings will be of great interest to art historians and musical instrument makers around the world and could change the process of how fine violins are made.



School board trustee Ron Goodwyn inspects an interior hallway in the first wing of classrooms. Van 'Go' photo

Construction proceeds on Buffalo High

If you have not driven up Highway 75 lately, you should take time to do so this

week. The BISD construction site on the west side of Hwy 75, just north of Highway 164, is a busy place and the new Buffalo High School is certainly taking shape.

DAR Chapter donates books to area schools

The Colonel George Dashiell Chapter, Daughters of the American Revolution, have donated two copies of this new book “We The People: The Story of Our Constitution”, to the school libraries in Centerville ISD and Normangee ISD. Chapter Regent Shirley Bland presented the two copies to the Centerville Librarian, and Past Regent Mae Bruce presented the two copies to the Normangee Libraries - one each to the elementary and the secondary library.

DAR has several objectives and two of them are to support our Constitution and to support literacy. The books donated are copies of the new book written by Ms Lynne Cheney and Greg Harlin, “We The People: The Story of Our Constitution”, and fit those objectives perfectly. This book is the newest by Cheney and is a ideal gift to students who are studying the Constitution.

The Chapter is grateful to the publisher, Simon and Schuster, for their gift of two hundred copies of this book. They learned of our support of schools, and our support for our “Adopt-a-unit” stationed at Fort Hood, so they offered these books. The four copies were given to Leon County students, and the others all went to Fort Hood families of soldiers who are stationed abroad.

The front of the new structure, which includes the entrance and two wings of classrooms, faces the highway and is the first thing you will see. That section is framed and being walled in. Beyond that rises the steel framework of a second wing of classrooms and the cafeteria area. A little farther to the north, the concrete stage and floor of the new 500-seat auditorium is poured. To the south, the walls of the sunken gym are being erected and that area is beginning to take shape, as well.

Beyond the structures, an asphalt parking lot is poured, which will serve as student and event parking.

The new school building is scheduled to be completed by October, 2009, and is reported to be on schedule.

TFB: Constitution Change a Good First Step

(WACO) – Governor Perry’s attempt to codify a current eminent domain law into the Texas Constitution is a good first step toward the true reform needed for property owners in Texas, said the leader of the state’s largest farm organization.

“Texas Farm Bureau welcomes Governor Perry’s recognition of the sacred bond between landowners and their property,” said TFB President Kenneth Dierschke. “However, any eminent domain reform must also address fair compensation and consider all factors between a willing buyer and seller—especially diminished access.”

Property values are often devalued by a loss of direct access to the property. It is a huge problem in rural Texas,

and is especially important in any discussion relating to eminent domain reform, Dierschke said.

The TFB president said some of the language in Perry’s proposal is similar to Senate Bill 7, which barred local governments from condemning private property for for-profit economic development projects. Senate Bill 7 was passed in the 2005 summer special session. Gov. Perry also called for the need for good faith negotiation between buyer and seller in eminent domain cases.

“Codifying eminent domain legislation into the Texas Constitution is a good idea,” Dierschke said. “Let’s make sure, however, that any new legislation covers all the bases.”

Eminent domain reform in the Lone Star State, Dierschke said, must rest on three pillars: Good faith negotiation before condemnation, adequate compensation which includes factors such as diminished access, and a no-nonsense definition of public use. The governor called for a team approach to solving eminent domain differences.

“The members of the Texas Farm Bureau have been at odds with the Governor over this issue since his veto of the landmark eminent domain legislation—House Bill 2006—in the last session,” Dierschke said. “We’re ready to put our differences aside to work on fair and just eminent domain reform for all Texans.”



The front elevation of the new high school campus, as viewed from Hwy 75. Van 'Go' photo

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