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## Letters

### The sound of old strings

Referring to the article reporting on Walter Burr's and Roger Wright's investigations ("Wiring a harpsichord's subtle sound," SN: 10/13/84, p. 231), I thought you would be interested to know of some very extensive research and practical efforts to duplicate harpsichord wire according to the practices of the old craftsmen, conducted by Rémy Gug of Strasbourg, France. Gug is himself a builder of harpsichords, but together with his father he began to investigate the subtle qualities of old strings by *manufacturing* them (literally making them by hand) according to the old methods.

According to his analysis, the elongated grains as well as the inclusions are due not only to the drawing technique but also to the repeated hammering and forging of the billet. Also

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Cover: The blotched lesions of the citrus-canker-causing bacteria spread from leaves to fruit on Valencia orange trees in Taitung, Taiwan. Citrus canker has gained an international status from recent outbreaks worldwide. Though no actual fruit has been infected in Florida, the detection of an unusual form of the bacteria on citrus seedlings there has prompted new research and a continuing eradication program to keep the disease out of fruit groves. (Photo: W.C. Wu)



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### Heady praise

I have long resisted the urge to drop you a note thanking you for your publication, but the linguistic charm of the headlines in your Dec. 1 issue is too compelling: "Words To Swim By" and "Oral bacteria: Germs of endearment" provide a delight difficult to equal.

Jonas Fendell  
Baltimore, Md.

*Correction: As the map with the article about the AMPTE artificial comet (SN: 12/8/84, p. 362) correctly indicated — though the caption did not — people in Denver looking for the comet on Christmas morning should face approximately south-southeast.*

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the high phosphorus content found by Wright is corroborated in Gug's investigation.

As to the richer sound of the old strings, a most interesting phenomenon is recorded in the comparison of various copper materials. The hand-forged copper "sounds" much longer than modern copper, the harmonics are more strongly represented and they provide a greater tendency to natural vibrato — the sound dying and recovering, apparently from an internal mechanism of energy storage due to the long-fiber structure.

Christopher R. Landmann  
Stuttgart, West Germany

*Extensive research on antique harpsichord wire has also been done by Scott Odell and Martha Goodway of the Smithsonian Institution in Washington, D.C.*

—I. Peterson

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