

# The Boston Musical Intelligen

*a virtual journal and essential blog of the classical music scene in greater Boston*

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IN: NEWS & FEATURES

OCTOBER 22, 2010

## Sensations of Tone Explores Physics and Music at Harvard

by [LEE EISEMAN](#)

*Thus spake Pythagoras:*

*There is geometry in the humming of the strings...there is music in the spacing of the spheres.*

It is commonly accepted that science and music first intersected in the work of [Pythagoras](#) about 2,500 years ago. In analyzing vibrating strings, looking at ratios of vibrations and considering what intervals were pleasing and displeasing, the Pythagorean Brotherhood not only were perhaps the first musicologists, but also made major direct contributions to geometry and indirectly to architecture. The *brothers* also looked to the heavens and heard music. Their view of the solar system consisted of 10 spheres revolving in perfect harmony at pitches related to their speeds. Doppler may have had other ideas about this in more recent times, but composers have for hundreds of years at least been fascinated by this image. This writer's favorite example is in Anton Rubinstein's *Second String Quartet, op 17, no. 2* whose *molto lento* third movement is entitled, "Music of the Spheres."



Helmholtz Resonators (Science Center Image)

Fast forward to Paris in the 1970s where another brotherhood declared a new school of composition: [Spectralism](#). Their polemic posited that the study of musical spectra, made more easily analyzable by computer tools, should be the prime mover in compositional decisions.

On October 27 and 28 Sargasso Arts and the [Harvard Collection of Historical Scientific Instruments](#) will present [Sensations of Tone](#), an exploration of the historical and contemporary relationship between wave physics and the arts. Jane Sheldon, in collaboration with Firebird Ensemble, will offer works by spectral composers Tristan Murail, Gerard Grisey, Kaija Saariaho and Somei Satoh. The following panels will offer discussions:

- On October 27 music historian Emily Dolan (Penn), physicist Rick Heller (Harvard), guitarist Mike Einziger of the band Incubus
- October 28 historian and philosopher of science and technology Myles Jackson (NYU), music historian Alex Rehding (Harvard), and historian of science Jimena Canales (Harvard)

Objects in the Harvard Collection of Historical Scientific Instruments will provide a scenic backdrop and possible springboard for the discourse.

*October 27 & 28, 2010, 5:30 pm at the Science Center, Harvard University, Special Exhibitions Gallery on the second floor by the Oxford Street entrance.*

*Free and open to the public*

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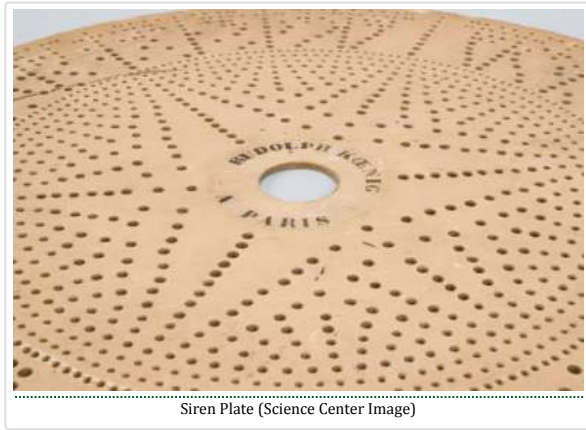
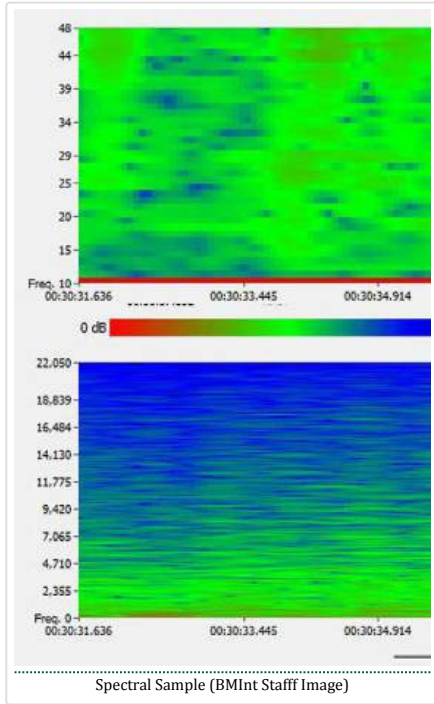
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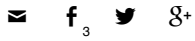


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*Silvane Allis:*



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