

Undergraduate Research Symposium May 18, 2012 Mary Gates Hall

Online Proceedings

POSTER SESSION 1

Commons West, Easel 28

12:00 PM to 1:30 PM

**Search for a Sustainable Classical Guitar Making Model:
Redressing Resource Management in a World of Nine
Billion People**

*Gee Lee, Senior, International Studies, Music
Mary Gates Scholar*

*Mentor: Kazimierz Poznanski, Jackson School International
Studies*

Traditional classical guitar making heavily relies on the use of precious wood and animal materials, many of which are endangered. These materials are illegal to trade under the CITES Treaty (Convention on International Trade in Endangered Species of Wild Flora and Fauna) and the U.S. Lacey Act which have unintentionally shifted material demand to countries of weak legal enforcement, resulting in environmental degradation. I would like to examine different factors involved through a production function, which comprises organization, technology, human capital, physical capital, labor, and natural resources to suggest a better institutional arrangement for classical guitar making. I will also gather historical data on Brazilian Rosewood, an essential material in guitar making. This will include its relative price to alternatives, its users, and the tree population to examine what is at stake. I predict that a better-designed international legal institution will facilitate the process of conservation while redressing the issue of resource limitation. Next, the formation of an international *de facto* standardizing institution will emerge to facilitate certification and ecolabeling programs, and incentivize sustainable forestry and business through market force. Furthermore, an increase in demand will lead to acoustic and construction technology advancement to remedy resource deficit. Through examining guitar making, I hope to propose a model for sustainable business and to tackle challenges in resource management for an ever increasingly populated world.

POSTER SESSION 2

Commons West, Easel 4

2:00 PM to 3:30 PM

**From Modality to Tonality: The Reformulation of
Harmony and Structure in Seventeenth Century Music**

*Lukas Perry, Junior, Music, Mathematics, University of
Puget Sound*

*Mentor: Geoffrey Block, School of Music, University of
Puget Sound*

The syntax of common practice tonality creates the potential for expansive musical works, with almost guaranteed gratification for the listener through a harmonic interplay between tension and resolution. The evolution of common practice tonality from the older system of modes spans the sixteenth and seventeenth centuries. With a focus on the seventeenth century, this study endeavors to clarify how, when, and, to some extent, why the monumental shift between modality and tonality occurred. A discussion of crucial differences between the two systems of musical organization—mainly the melodic basis of the modes versus the harmonic basis of the tonal major and minor scales—serves as the starting point for analysis. Following is an examination of figured bass practice as well as music theorists' increasing acknowledgement of a tonal system in order to shed light on how contemporary tonal developments were understood. Finally, an analysis of music highlights sixteenth-century tonal seeds and shows how composers from Claudio Monteverdi (1567-1643) to Arcangelo Corelli (1653-1713) developed discreet tonal regions and linked them through directed harmonic motion to establish tonal hierarchies locally and globally. Ideally, this project does justice both to the breadth and specificity required of this expansive topic and serves either as an extended study for a music survey course or as a springboard for further focused research.