INTERCULTURAL EXPLORATION: THE COMPUTER AND TRADITIONAL MUSIC CULTURES

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ABSTRACT

The exploration of music and sound from traditions in Asia, Africa, America and Europe has provided a healthy contextual upheaval and a rich source of materials for an American composer using technology. Collaboration with performers and performer-composers skilled in folk, jazz, and traditional musics as well as contemporary music have resulted in the *Sound Collaborations* compact disk containing four collaborative works. Exploration in Asia included extensive travel to areas in China, Korea and Japan for recording sessions in temples, universities and mountain parks, and study of the qin, the ancient Chinese zither. Two installations, *Staircase of Light* and *Hidden Mountain*, based on sounds from these travels were composed and constructed at the Sino-Nordic Arts Space in Beijing in 2003 and 2007. This paper documents intercultural aspects of these compositions involving the computer.

1. INTRODUCTION

Exploration beyond a artist's own culture has a long tradition: the Romantic artist's "exoticism", John Cage's Zen-influenced *Silence*, Robert Motherwell's Japanese-influenced *Zen Samurai* and Alessandro Cipriani's *Al Nur* are a few examples of significant work derived from interaction with other traditions. Recording technology and now internet access make it easy to hear and acquire sound samples from around the world. The projects described here went beyond acquisition of "exotic" sound, to interacting musically with artists from distant cultural traditions, to explore the contexts and meaning of the sounds in Asian cultures in particular, and to attempt to use them in a way that is interculturally significant. Exploring performance based on traditional cultural components in a technologically powerful environment allowed composition both with new tools and with a broader cultural perspective simultaneously. Stephen Holtzman has noted, ""new techniques of creativity represent a continuity with traditional forms of expression; in fact, with traditions that date to the very distant past" [4], and the use of technology in these compositions expose and enhance culturally distinct elements.

2. COLLABORATION

I collaborated with four performers in Cincinnati between 2003 and 2006 who have been involved with some aspects of traditional music. These collaborations were published in the *Sound Collaborations* compact disk [1].

2.1. Ming Ke, Pipa Virtuoso

While travelling in China in 2003 I heard a lot of Chinese music, from Peking Opera to the folk music of indigenous peoples of Dali in Yunnan province. Hiking in the unique mountains, Hua Shan, Emei Shan and Huang Shan, some of which have been associated with Buddhism or Taoism, was a stimulating and cathartic experience. After the trip I contacted Ming Ke about writing a piece based on my mountain experiences for pipa, the Chinese lute, ensemble (fl, cl, bn, vn and vc) and computer music. A video version using pictures I'd taken on the trip was written in 2004.

I wrote out the complete score for the work, and the computer part consisted of seven soundfiles for each section, triggered from MaxMSP for smooth coordination with the live part. The computer music contained sounds of recorded and processed qin and a couple of processed clusters on Western instruments. Ming Ke provided helpful advice on pipa-writing. In subsequent collaborations the role of the performer extended to composer as well.

2.2. Gyil, the Ghanaian Xylophone

My long-time collaborator Allen Otte [3] has an African instrument, the gyil, or Ghanaian xylophone. It has wood bars and gourd resonators with a spider-web paste on the holes. The sound has a characteristic buzzy component like many African instruments. I sampled him playing a traditional Dagara funeral music, Ga Da Yina, and many improvisatory gestures, for *No. 7 for Gyil and Computer*. He also plays hand-cut logs, and wields an axe in this fixed format plus percussion work. Working with RTcmix music programming, I zoomed in on the buzzy sound for a lengthy crescendo several times (his idea), and applied algorithms to the rhythmic motives, to create lines and patterns of color and textural densities in the 5.1 space around the percussionist.

2.3. Jazz and *Smoke*

The fourth and most interactive of these collaborative works involved jazz saxophonist Rick VanMatre, and artist Anna VanMatre. She had created powerful graphite paintings, which formed installation works and inspired the composition of *Smoke*, for tenor and

soprano saxophones and computer. She then created a new version of her installation for various performances in Cincinnati and New York. The sax sounds played by Rick were "smoky", with a slight noisy content and microtonally inflected. The saxophone part moves from a score I wrote out for section one, to structured improvisation in sections two and three. The computer part is structured improvisation with soundfiles created with StochGran [2], triggered by sonogram buttons in the patch, material synthesized from pitch tracking the saxophone, and processing of the saxophone and soundfiles with rtcmix~.

Figure 1. Performance of *Smoke* with installation.

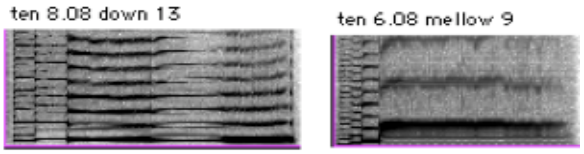

Figure 2. *Smoke*: patch soundfile sonogram buttons.

2.4. The Man and the Moon

Alan Bern is known as founder of Brave Old World, the new Jewish music group, but also skilled in composition and many other folk musics. Because I grew up hearing Swedish music played on accordion at family Christmas parties, we decided to do a piece based on a Swedish hambo dance. After many versions of the piece we settled on one opening with the unaltered hambo, which explodes into a computer-generated big bang of sound fragments and then moves toward calming expanded loops based primarily on the hambo's low chords. Both the accordion and computer parts are largely improvised. The title refers to the human experience of interfacing with unfamiliar technologies.

This structured improvisation has no score and is performed live on accordion and computer. The computer part is different every time and consists of both soundfile playback and processing of the accordion part. The accordion part moves between traditional hambo playing to an extended key-click/button-click section to a meditative improvisation with clusters.

3. EXPERIENCING ASIA

After writing the piece for Ming Ke, I explored a persistent interest in Asian music, philosophy and martial arts further recently through extensive travel in China, Japan and Korea, sampling of sounds in temples, experiencing Tibetan and Zen Buddhist services, and obtaining traditional instruments and recordings. Several concert works and two installations have since been created.

3.1. Qin

My compositional interests have long centered on color, timbral gestures and using the computer. These inclinations sparked my interest in the music of the qin, the ancient Chinese 7-stringed zither, which has a diversity of color and subtlety of performance practice due to its long development, the literati's emphasis on Classical poetry, painting and music, and the instrument's construction. Sonic contrasts abound in the sounds of this instrument: the shape of ornaments and glissandi on a fretless strings; the registral and timbral variety from low C to two octaves above middle C (harmonics), and the noises of fingers against silk or metal strings vs the clear pitched sounds. The extreme cultural displacement experienced playing an instrument with a 3000 year history and meditative and solitary performance practice in a 21st century state of the art computer music setting is oddly appropriate because of the sonic contrasts inherent in the qin's sound. What setting could make this quiet instrument project its subtleties more effectively? The rich timbral and melodic elements with qin exist compatibly in sound environments that also explore sound, color and texture. I purchased a qin in Beijing in 1999, recorded virtuoso Huang Mei in 2003 also in Beijing and began studying the instrument with Bell Yung in 2003 in the U.S..

The *Improvisation for Qin* series of compositions include No. 1, for qin and computer, No. 2, for video, qin and computer, and No. 3, for qin, percussion and computer. They are also structured improvisations with MaxMSP patch playing both sounds granulated with StochGran and realtime processing and synthesis based on the live qin. Two traditional qin pieces are drawn on: *Song of Qin*, performed in its entirety live in the final section, and samples from *Flowing Water (Liu Shui)* performed by Huang Mei and extensively processed with delays. I took photographs in China in 2003 which were the basis for the video in No. 2. The percussion instruments for No. 3 consist of gongs and cymbals found travelling in Asia in 2007.

3.2. Temple Recordings

In many temples in China, Korea and Japan I recorded gongs, bells and drums. I was also privileged to be able to record several services due to the arrangements made by generous friends, colleagues and students. In a remote Tibetan area of Qinghai province I recorded several temple services including those at Yushu and Tu Deng, which will provide much future inspiration for composition. At Ta'er Si a young monk in his room allowed me to record him chanting with drum and gong, including a profoundly appropriate thunderstorm interruption.

In Korea, monks shared green tea and a chat, and then allowed me to record huge bell and drum sounds at the Buddhist temple near Insadong in Seoul. I recorded many instruments in the extensive collection at the Korea National University's collection and viewed the museum's instruments, with singer Hyun Moon sharing his knowledge.

In Japan I investigated the traditional instrument museum at Kunitachi, sampled a bell and the environment at a temple in Kamakura, and then travelled by bullet train to Kyoto, where I saw the famous Ryoanji, NanZenji and other temples. Travelling again, north to Eiheiji, I conversed with monks and recorded the services at that Zen temple.

The long tradition of use of drum and gongs in sacred settings to facilitate mental focus shows the sound's function as a catalyst for spiritual growth. I was interested in allowing people to experience a similar mental focus through hearing these sounds, within electroacoustic music composition.

3.3. Instrument Collecting

Through connections with the China Conservatory of Music when I was in Beijing for ICMC 1999, I was able to purchase a qin made by an excellent craftsman and bring it to the U.S. I considered inlaying pickup microphones, but decided it was safer to put an Applied Microphone Technology System 1 under the soundhole.

In summer of 2007 on a grant from the Tangeman Sacred Music Center at UC, I was able to travel to Asia again, and purchased the following instruments: 1) Tibetan cymbals at the Ta'er Si market near Xining, Qinghai province, China. 2) a large bowl gong used in Zen Buddhist services from Eight Great Temples in Western Beijing. 3) 2 Korean jings (gongs), one small, from the Korean National University of the Arts store and one large, from a shop by the Buddhist Temple near Insadong in Seoul, Korea. 4) a bell from the same shop, 5) a small bowl gong from Eiheiji temple North of Kyoto in Japan and 6) an 80-year old Tibetan bowl gong found in a shop in Insadong in Seoul. These instruments have already been used in the *Improvisation with Qin and Percussion* composition, and will no doubt play a part in future compositions.

3.4. Installations at SNAS

As visiting composer at Josef Fung's SinoNordic Arts Space in Eastern Beijing, I created installations in 2003 and 2007.

3.4.1. Staircase of Light

On sabbatical in 2003, I had collected some recordings from my travels in the mountains in Shaanxi, Sichuan and Anhui Provinces, and aslro recorded qin player Huang Mei. I processed some of these samples with StochGran and other algorithms. I created an interactive installation on the Escher-like stairway in the main part of SNAS. Photocell light sensors inside film caps were mounted on some of the stairs, each opposite a flashlight. When someone stepped on the stair, the data from the photocell changed. The data was connected to a NOTAM analog to MIDI converter, and then to my computer running a MaxMSP patch. The amount of light reaching the photocell depended on the kind of movement on the stair, and the type of shoe the person was wearing. This light determined what type of sound activity was initiated or altered. The patch performed real-time windowing on soundfiles granulated with StochGran [2]. The combination of real-time and non-real-time processing gave rich and varied sounds that reacted spontaneously to the light input. A high-heeled Latin-contemporary dancer performed on the staircase installation at a party in July 2003. The bell, water and granulated sounds were reflected well in the large space with marble floors and high ceilings.

A concert version of the installation called *China Prism* was created in 2004 in the U.S. by mounting photocells and flashlights on microphone stands on the stage. This work was performed at Tulane University and the Performance Time Art Series in Cincinnati with some success, but is cumbersome to set up.

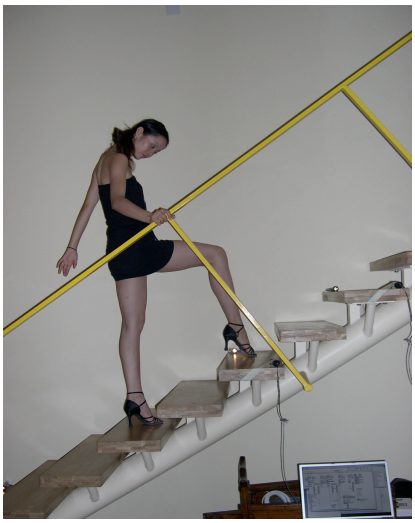

Figure 3. Dancer performing on the *Stairway of Light.*

Figure 4. Stairway at the SinoNordic Arts Space.

3.4.2. Hidden Mountain

In 2007 Josef Fung invited me to create a permanent installation in one of the SNAS rooms that has beautiful antique furniture. I employed a similar technology as the earlier installation for the initial version of this new work. Track lighting already in the ceiling was the new light source, as it could be aimed at the photocells. Refinements included housing the grey wires in a more attactive fiber cover, and mounting the speakers, NOTAM box and MIDI interface into a refinished trough that was part of the room's furniture. A glass top of one of the tables provided a way to hide the sensor but still let light find it.

The sounds this time were completely different, and included Tibetan folk singers and yaks from Yushu, gongs and the Ta'er Si chanting monk. Windowing and granulation was less employed, giving the sounds a more authentic quality. As one passes through the room one experiences the sound of remote mountain countryside in Qinghai, Tibetan folk song, a breakfast chant and other temple sounds. This project will be an ongoing collaboration between SNAS and Cincinnati, and I am currently working on converting to wireless sensors and expanding the sound component.

Figure 5. *Hidden Mountain* installation at SNAS.

4. CONCLUSION

New technology makes it possible to expericnce facets of rare and timeless environments in intercultural contexts. *Hidden Mountain* and *Sound Collaborations* are ongoing compositional projects http://www.ccm.uc.edu/computermusic.

5. REFERENCES

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