

## **“Inspiring: Telematic Jazz Explorations” Composers Panel**

• Mark Dresser, Composer, Bassist, Conductor, Professor of Music, University of California San Diego <[www.mark-dresser.com](http://www.mark-dresser.com)>

• Gerry Hemingway, Composer, Percussionist, Music Faculty, Hochschule Luzern <[www.gerryhemingway.com](http://www.gerryhemingway.com)>

• Oliver Lake, Composer, Alto Saxophonist, Voice, Artistic Director, Passin’ Thru Inc. <[www.oliverlake.net](http://www.oliverlake.net)>

• Sarah Weaver, Composer, Conductor, Music Faculty, New York University <[www.sarahweaver.org](http://www.sarahweaver.org)>

Panel Presented December 4, 2010 at the International Society for Improvised Music 5th Annual Conference “Improvisation and Cross-Cultural Creativity: Fostering Connections Through Spontaneous Musical Art” University of Michigan, Ann Arbor, USA.

Contacts:

Sarah Weaver - [sahrweaver@gmail.com](mailto:sahrweaver@gmail.com)

111 E. 14th Street, PMB 279

New York, NY 10003

Mark Dresser - [deldresser@gmail.com](mailto:deldresser@gmail.com)

## **Abstract**

“Inspiring: Telematic Jazz Explorations” June 13, 2010 was an unprecedented concert of new jazz works with renowned composers and performers for the telematic music medium. Telematic music is live performance via the internet by musicians in different geographic locations. Performers were located in New York and San Diego playing together as one trans-continental ensemble. There were local audiences as well as a world-wide webcast. The music explores elements of jazz fused with artistic properties of the telematic medium including multiplicity, heterophony, swing, polyphony, and synchronicity. Electroacoustically the music is shaped by the telematic medium as an instrument itself and aesthetic application of the technology is shaped by the music. The transparent densities and intensities were manifested to create this new music reality of telematic jazz. The telematic music technology included JackTrip audio software, LifeSize videoconferencing hardware, and Internet2. The composers panel discusses the compositional strategies of each piece in the program. Links to excerpts of audio and video recordings from the concert are provided for reference.

## **Video Excerpt Website References**

<http://vimeo.com/15069197>

<http://vimeo.com/15074444>

<http://vimeo.com/15350760>

<http://vimeo.com/14889576>

## **Overview**

“Inspiring: Telematic Jazz Explorations” June 13, 2010 was an unprecedented concert of new jazz works with renowned composers and performers for the telematic music medium. Telematic music is live performance via the internet by musicians in different geographic locations. Performers were located in New York and San Diego playing together as one trans-continental ensemble. There were local audiences as well as a world-wide webcast. The music explores elements of jazz fused with artistic properties of the telematic medium including multiplicity, heterophony, swing, polyphony, and synchronicity. Electroacoustically the music is shaped by the telematic medium as an instrument itself and aesthetic application of the technology is shaped by the music. The transparent densities and intensities were manifested to create this new music reality of telematic jazz.

## **Program**

The concert program was “Telein” by Sarah Weaver, “As We Know It” by Oliver Lake, “OilEye” by Gerry Hemingway, and “TeleWhorl” by Mark Dresser. The San Diego performers were Hafez Modirzadeh, tenor saxophone, Michael Dessen, trombone, Alex Cline, percussion, Mark Dresser, contrabass. The New York performers were Amir ElSaffar, trumpet and voice, Oliver Lake, alto saxophone and voice, Min Xiao-Fen, pipa and voice, Gerry Hemingway, percussion and samples, Sarah Weaver, conductor.

## **Technology**

The network technology utilized was JackTrip audio software, LifeSize videoconferencing hardware, and Internet2. The localized technology included close microphones, multichannel

speakers, video cameras, large video screens and monitors, multichannel audio recording, and multicamera HD video recording. The performance was webcasted from San Diego. In San Diego the technical director was Todd Margolis, the crew was Scott Levine, Mike Gao, Alex Matthews, Hector Bracho, Michael Toillion, and documentation was by Ash Smith and Jeremy Rojas. In New York the technical director was Tom Beyer, the crew was Ignacio Arriagada, Andrew Madden, Carlos Salguero, Tim Keating, Tyler Sawyer, and documentation was by Oung-Jo Yuh and Alden Tuck.

### **Coordination and Presentation**

The project was coordinated by Mark Dresser and Sarah Weaver. The presenters were Calit2, Center for Research and Computing in the Arts (CRCA), University of California San Diego, with support from the Dean of Arts and Humanities and the Fund for Innovation; Music Technology Program, Steinhardt School, New York University, Dr. Robert Rowe, Chair, Department of Music and Performing Arts Professions; and Roulette Intermedia Inc., New York.

### **Purpose**

“Inspiraling: Telematic Jazz Explorations” is one of several telematic music projects Mark Dresser and Sarah Weaver have worked on together since 2007. The focus of this project was to explore and innovate professional level jazz in a low latency telematic music setting with these exceptional artists and the metaphor of “Inspiraling” to express the new music of this medium. The roster was chosen specifically for the elements of “Inspiraling: Telematic Jazz Explorations” and the pieces were written for these performers. The performance-quality technology and low

latency of approximately 25ms audio and 75ms video facilitated a successful composite venue for this music.

The composers panel discusses the compositional strategies of each piece in the program. Links to excerpts of audio and video recordings from the concert are provided for reference. A full DVD of the concert will be made available commercially.

## **“Telein” by Sarah Weaver**

San Diego Performers: Hafez Modirzadeh, tenor saxophone, Michael Dessen, trombone, Alex Cline, auxiliary percussion, Mark Dresser, contrabass.

New York Performers: Amir ElSaffar, trumpet, Oliver Lake, alto saxophone, Min Xiao-Fen, pipa and voice, Gerry Hemingway, drumset, Sarah Weaver, conductor.

“Telein” is a Greek word meaning "to initiate into the mysteries". It is related to the Greek words 'telesma', 'telos', and the Arabic 'tilasm' طل اسم.

### **Introduction**

Since 2006 I have been deeply engaged in composing and performing telematic music, developing strategies for the medium, and producing projects that involve musicians and sites with mutual aesthetics and standards for telematic music. Mark Dresser and I coordinated “Inspiraling: Telematic Jazz Explorations”, we have worked closely on several beautiful telematic projects in addition to our independent projects. Together with composers Mark Dresser, Gerry Hemingway, and Oliver Lake, this ensemble of profound, renowned, diverse performers conducive to the music, and the metaphor of “Inspiraling” to work with, I was enlivened by the rich potentials of this concert overall.

The ensemble has distinctive attributes to incorporate such as the robust and multicultural timbres of Alex Cline, melodic and multi-time threading of Michael Dessen, lucidity and total dimensionality of Mark Dresser, microtonality and maqam qualities of Amir ElSaffar and Hafez Modirzadeh, engulfment and multiple plane synthesis of Gerry Hemingway, powerful trajectory

weavings of Oliver Lake, intricacy and expressiveness of Min Xiao-Fen, and the extensive individual musical languages and virtuosity of each of these performers. Musically I was interested to explore strategies for particular facets of time within the low-latency connection including elasticity and widening of ‘swing’ time. I also had concepts emerging of ‘nodal music’ with ‘node’ as a point of multiple intersections, which opened more fully in subsequent projects. While tuning and sketching for this composition and the metaphor of “Inspiraling”, I came across the title “Telein”.

### **Title**

I felt “Telein” as a title on many levels. The definition “to initiate into the mysteries” I could hear as music to express through this medium, ensemble, and in the context of “Inspiraling”. As a word “Telein” has ‘tele’ which relates to ‘telematic’. ‘In’ has several associations including spectral relation to “Inspiraling”. The titles could be heard connectively as “tele-in-spiraling”. “Inspiraling” has ‘inspire’ and ‘spiral’. The experience of ‘inspire’ becomes an ‘inspiral’ in the dimensionality of telematic music. There is a simultaneous inwardness and outwardness, a lucidity. While we project musically and perceptually across the distance and latency, an intimacy develops as well, both perceptually and in the physical acoustics of amplifying the incoming sounds. The spiral itself has long been studied in mathematical and sacred geometry. These elements coalesced into the title “Telein.”

### **Strategies**

The music of “Telein” is synthesized within multi-faceted strategies and aesthetics for the telematic medium developed in projects over time. “Telein” is comprised of metaphor palettes,

each containing content translated from metaphor. The palettes are modulated and processed by conducted gestures from the language Soundpainting, traditional conducting, and original gestures developed for the piece. This form of metaphor translation and gestural processing has been developed through collaboration with Mark Dresser. The piece was written with composed and improvised elements for the special artistic qualities of each performer in the ensemble. Components of the piece include the Fibonacci sequence, spectrum, multiplicity, impulse time, and dimensionality. I will explain these components and their applications within the piece.

### **Fibonacci Sequence**

The Fibonacci sequence is a mathematical representation of a spiral. The first two numbers are 0 and 1, each next number is a sum of the previous two. The sequence is 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, and so on. The sequence is applied in “Telein” to time layers, time meters, and overall trajectories within the piece.

An example of time layers is in the second palette. A quartet of trumpet, tenor saxophone, trombone, and pipa play staggered cycles of eighth notes on pitch D4 or D5 in tempo 120-160bpm. Each cycle is the length of one exhale while the inhale is silent. Within the eighth notes there are accents assigned to each performer according to the Fibonacci sequence. The conductor intermittently alters the lengths of the eighth notes using a gestural fader defining durations.

Time meters occur in palette four, displaced between the two percussionists. The drumset in New York works with 3's, 8's, 21's, while the auxiliary percussion in San Diego works with 5's, 13's,

34's, incorporating silence in between the emphasized beats. The percussionists maintain a synchronized tempo as much as possible within the latency for a widening synchrony.

## **Spectrum**

Spectrum is expressed through a range of musical aspects that are composed, improvised, and conducted. Gestural faders show gradient variation within defined parameters. Faders are shown on both sides of the conductor body, with San Diego performers responding to the left side and New York performers to the right side. Faders throughout the piece include pitch-to-harmonics, pitch-to-noise, interval range relative to each instrument, volume, duration, density, and synchrony-desynchrony.

Spectrum opens the piece in the first palette. The percussionists in both locations play sustained cymbals. The cymbals are spectralized by incorporating single pitches, multiharmonics, and silences. The conductor gives dimensionality through faders undulating pitch-to-harmonics and volume between the locations.

As the full bass solo emerges, it reveals spectrum through bending and wavering of pitch, timbre, and time. The solo continues expanding these elements through tremolo, ritardando, descension, complexity of timbre, crescendo. The tremolos of two pitches represent the two locations, two musical planes, resultants of 'two-ness' on metaphor levels, into a kind of double helix threshold. The solo ends with the two long tones, into one long tone, into indiscreet pitch improvising.

## **Multiplicity**

Multiplicity as closely related variations is an inherent property of telematic music within qualities such as low latency and co-located venues. Multiplicity occurs in the piece in elements of time, pitch, timbre, and increments between synchrony and desynchrony.

Multiplicity is heard prominently in the beginning of palette six. The trumpet and tenor saxophone play microtonal hocketing emphasizing E and Eb, over several layers of activity in the ensemble. Then in palette seven the alto saxophone, pipa, and trombone play single notes within an interval space fader sequence shown by the conductor. The synchrony-desynchrony fader is utilized in palette eight as a central culminating element within the interval space fader ranges, various pitch lengths, density, vibratos, and impulse time.

## **Impulse Time**

Impulse time was conceived as a perceptual synchronization of internal and external time layers. Impulse time is defined as the following steps for generating each impulse: a. Inhale and listen internally for the impulse, b. Exhale and tune globally for the impulse, c. Get a body sense of the impulse, d. Play. The performer evolves from fulfilling these steps in a linear order into accomplishing the steps more simultaneously as a state. This is also meant to engage subconscious components for “Telein”, linking internal and external time layers with transcending geographic distance.

Impulse time is first introduced in palette five. The bass and pipa utilize impulse time in the palette through short rhythmic bursts on G pitch, with wide intervals, microtonality, and linear

ascension, silence in between each impulse, while the percussionists continue Fibonacci sequence time layers. Later in palettes seven and eight impulse time is incorporated into the interval space fader sequences with groups of performers. Impulse time also occurs in palette eight with the drumset playing first attacks of 13, 21, 34, and 55 from the Fibonacci sequence and any resultant impulse time attacks.

### **Dimensionality**

Dimensionality refers to the spatial components of the telematic music medium and elements of the “Telein” definition “to initiate into the mysteries”. The dimensional process is addressed compositionally through simultaneity, nodal integration of piece components, and resultant planes which occur as outcomes of multiple intersecting components acting simultaneously.

In palette five, a long alto saxophone solo is played prominently with linear development and widening arcs. The short rhythmic bursts in impulse time from the bass and pipa continue. Textural elements are added with trombone gliss contours as conducted. Ornamentation of the ends of each trombone gliss contour are played by the trumpet and tenor saxophone. The palette cadences with the end of the alto saxophone solo.

In palette eight, the bass enters again with the bendings and bursts of prior palettes, slowly gaining volume. The drumset ascends to playing only the 13, 21, 34, and 55 time intervals in any order, while introducing resultant impulse time attacks and slowly gaining volume. The rest of the group develops impulse time within the interval space fader by playing either single notes or

long tones with wide vibrato. The conductor shows a fader of synchrony-desynchrony for pitch and time. These layers open the dimensionality of the piece and culminate group elements.

### **Culmination**

The piece continues into palette nine for a resultant culmination of the sonic and vibrational harmonics of the piece. The bass improvises with the bendings and the drumset improvises with the time planes. The rest of the group is exited. The bass and drumset have an extended improvisation and integration with these elements, fulfilling the resultant culmination.

### **Conclusion**

“Telein” incorporates these components to express “to initiate into the mysteries” within “Inspiraling: Telematic Jazz Explorations”. As the first piece in the concert it functioned as a type of invocation, opening into the next pieces of this special concert.

## **“As We Know It” by Oliver Lake**

San Diego Performers: Hafez Modirzadeh, Tenor Saxophone, Michael Dessen, Trombone,

Alex Cline, Auxiliary Percussion, Mark Dresser, Bass

New York Performers: Amir ElSaffar, Trumpet, Oliver Lake, Alto Saxophone, Min Xiao-Fen,

Pipa, Gerry Hemingway, Drumset, Sarah Weaver, Conductor

This piece for Telematic Ensemble was composed using elements that I have incorporated in some of my earlier compositions for large ensembles. “As We Know It” uses graphics, written notation, trills, harmonics and improvisation. The piece is mostly improvised, with groupings of trios, duos, quartets, like instruments and the entire group. I wanted to make sure the piece had shape. That meant making sure that there was a definite beginning, middle and end. I have used many of these graphics in several of past compositions. The piece was written with the knowledge that there were strong improvisers in both ensembles, therefore my writing (graphics) serves as a launching point, for the improvisations. There is an ad lib section for San Diego players only, and an ad lib section for New York players. The notated section of the piece, is only five bars and is written with same notes on each part, each player does not transpose his or her notes, so we have a natural harmony. There are four sustain sections in the piece, two long sustained sections and two short sustained sections (no key signature). The first long sustained section is in A minor concert, (players transpose, and choose any note from the scale, changing notes at will). Near the end of the piece, it builds until we have all the instruments improvising, this leads to the second long sustained section, which is in D minor and fades to the end of the composition.

Fortunately for us, there was only a very small delay and was not distracting when we inter-acted with the San Diego players. After awhile it seemed we were all in the same room.

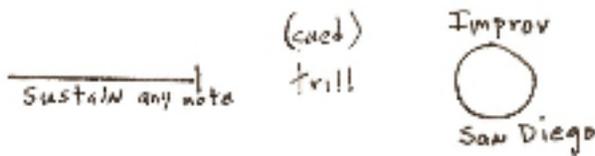
When it came to choosing the title “As We Know It”, I was actually thinking “The End of the World - As We Know It” - thinking of the oil spill, life after of 9/11, economy, environment - etc. Then decided to use only the last part of the phrase as the title, thinking of having some mystery, “as we know -WHAT?”

“As We Know It” Score Examples:

1.



2.



3.



## **“OilEye” by Gerry Hemingway**

A work composed for two quartets and performed as part of the program - Inspiring: Telematic Jazz Explorations, which occurred on June 13, 2010 in New York City, NY and San Diego, CA.

New York Performers - Amir ElSaffar, trumpet, vocal, Oliver Lake, saxophone, speaking voice, Min Xiao-Fen, pipa, voice, Gerry Hemingway, percussion, sampler, Sarah Weaver, conductor  
San Diego Performers - Hafez Modirzadeh, saxophone, Michael Dessen, trombone, Alex Cline, percussion, Mark Dresser, contrabass

The process of creating this work was several-fold. Initially I began with an investigation of the performance realities of the telematic technology by asking musicians who had experience performing with it, exactly what I could expect as far as synchrony was concerned. A general consensus was that I would experience about a .25 second delay in audio, and about a .50 or more delay in video stream. I was intrigued by this slight difference in timing as a musical device. I could imagine a few musical ideas being affected positively by this inherent delay, and I was also intrigued with how the West coast quartet would sound to us on the East Coast if they were reacting to Sarah Weaver’s East Coast visual conducting of pulse (an interesting, less calculable, exponentiation of this delay issue).

What emerged in my musical writing at first was a relatively ‘safe’ (as regards rhythmic synchrony) orchestration of having the West Coast function as the primary rhythmic/harmonic foundation, over which the East Coast would have musical parts (primarily melodic and or

rhythmically reactive) that could relate well to what we heard, essentially bypassing the lag issue. I purposely picked tempos, subdivision, and rhythmic syncopation that would relate well to the expected audio lag. This is manifested in the piece in two places. First, is the music after the introduction (at 03:54) when this slow bass and horn repetitive sounding but through-composed figure emerges from the electro-acoustic opening. This material is played by the West Coast quartet. The East Coast group played their interrelated material (melodic – alto + trumpet as well as rhythmic improvised commentary by the drums and pipa) in relation to the discernable pulse that is audible in the West Coast material, aided visually by Sarah Weaver conducting pulse and entrances and exits based on the same audible pulse.

At 14:48 the closing material begins and a similar strategy was used in organizing the foundation, melodic theme and rhythmic ornamentation. This material as well as the opening was written without an overarching concept for the work as whole, only as material that I thought would be interesting given the players and the technical environment of the piece.

But then, as is sometimes the case when one begins a process from an abstract position, an unexpected element you encounter enters the equation that ends up clearly shaping the decisions and orientation of the compositional process. What I encountered, in the middle of working on this music, was an email from a nature conservancy containing some painful documentation of the Gulf Oil disaster, which was reaching a disastrous crescendo in May of 2010. I was, of course, well aware of the disaster but this email alert prompted me to take a closer look, so I began surveying blogs and in particular I went to look at photographic documentation from the disaster taken by Greenpeace. Not only was I horrified at the already present and clear long-term

consequences but also struck at the very clear metaphorical messages that were speaking loudly in this situation. Here mankind was steadily losing a battle with containing a seemingly unstoppable ejaculation from deep inside the earth, of a resource that has prompted a legacy of greed, war, manipulation of need and erosion of our most fundamental life-sustenance, water and air. Our wise planet was trying to send a wake up call to us all. Looking at the images it was disturbing to see this dark liquid begin to permeate a larger and larger swath of the Gulf. It was also eerily poignant in the same way a nuclear mushroom cloud is visually breathtaking. Oil and water, we are shown and told when we are kids, don't mix, (because the intermolecular bonds in both are so strong) but I know I was one of many dazzled by the amazing colors that emerge from the chemical reaction of this combination. So these various dichotomic tensions; the oil not mixing but by sheer volume changing the composition of the sea, the discovery of classic greed in the 'oversight' of the rig's owner, British Petroleum, to not take proper precautions in the rig's construction and heed warnings issued by inspectors, the consequence costing so much more than the precautions would have cost, the fisherman whose livelihoods were at stake, while their own commerce let alone their boats depend on the very resource that leads these shameless companies to drill into the ocean floor. All of this struck me as very in keeping with the structure of the musical content I was already working with in this piece. For instance I was already exploring the issue of illusory synchronicity, where the actualization of the material conveys a unified perspective but actually it is a tenuous connection affected by the technology and its limitations. This seemed a poetic parallel to portraying the way in which the oil and water and all of the related metaphors of the disaster were coexisting yet separate.

With this subject on my mind, the process of composition became clearer and there affected a narrative purpose to each new element I introduced to the piece. I created two sections where there were chords that moved inward and outward, either by intervallic widening (beginning at 2:30) and narrowing (beginning at 9:14 – same chords opposite direction 5,4,3,2,1).

quiet chords Bass  
conducted slowly  
by Sarah

The other section where this kind of separate but related interactive material really embraces this metaphor of oil and water is “Notation Section 2”. This material acts as a background to the percussion duet (beginning at 11:25) where two trios from each ‘coast’ follow Sarah conducting visually and play a series of repetitive chords (see notation below). Each trio is rhythmically and directionally unified but the repetition that each trio plays is slightly different from the other. Each trio move directionally away from each other and then return back to where they began. But what is interesting is how this element of telematic lag plays a role (not precise but relatively predictable) to how this interaction unfolds.

## OilEye Notation 2 - concert

The image shows a musical score for a concert piece titled "OilEye Notation 2 - concert". The score is written for six instruments: Trumpet, Pipa, Alto/Sp., Tenor Sax, Trombone, and Bass. The music is in 4/4 time and begins with a tempo marking of ♩ = 68. The score is divided into four measures, numbered 1 through 4. The Trumpet part is marked "w/harmon" and the Alto/Sp. part is marked "alto". The Tenor Sax part is marked "w/ straight mute" and the Bass part is marked "arco (at written pitch)". The score is written in a staff with a treble clef for the Trumpet, Pipa, and Alto/Sp., and a bass clef for the Tenor Sax, Trombone, and Bass. The music features a mix of eighth and quarter notes, with some rests and dynamic markings.

The piece utilizes a number of improvisational strategies which are built around some of the specific language skills of the players as well as the theme of the work. There is an electro-acoustic field that opens the work, that is derived from processing a variety of water sounds and bird sounds. With the bird sounds I was able to develop a process that gave the auditory impression that the call of the birds was submerged in something thick, rendering an almost literal tableau to set the tonality of the work. I also utilized Amir ElSaffar's capacity for Arabic singing (beginning at 6:58) which subtly offers a Middle East resonance in the subject matter of the work. His voice like the birds at the beginning is also processed in real time with a sense of distance, heaviness and thickness.

Then there is the text which adds another dimension to the content and utilizes Oliver Lake's unique form of Sprechstimme which I am quite familiar with and have always enjoyed how he

integrates this spoken style with improvising on the alto saxophone. I used a rough approximation of something I first remember Robert Duncan using in one of his poems, where words are spread relatively randomly on the page leaving the reader to make his own reading in his own order. The words are derived from text I was reading about the disaster. For instance: Whore – Eyes – On is a play on the name of the oil rig itself . “Deepwater Horizon”, Bee and Pee, to the company that created this mess, Tea to the party whose namesake and policies have an interesting parallel to pollution and waste. And the title of the work was derived from a phrase being hurled around sensationally at the time “the Eye of the Oil”.

Eye                      Sea                      no  
Oil                      Cap  
Bee                      Rig  
Pee                      Bag                      blame  
Tea                      Eyes  
Whore                      On  
Rush                      in                      Deep

Finally the piece offers a sense of positive relatedness by including a series of bi-coastal duet improvisations that begin around 8:12 where these musical elements and settings offer the possibility for improvisers to do what they do best, play together and make something wonderful happen unrestricted by the 3000 miles between them.

Gerry Hemingway, Luzern Switzerland June 7, 2011

## **“Telewhorl” by Mark Dresser**

As the co-coordinator, with Sarah Weaver, of *Inspiraling, Telematic Jazz Explorations* it was important to me to assemble a professional ensemble whose internal chemistry was a known quantity. I wanted to compose for those improvisers with whom I had a past performing history and knew their improvising potentials. I was hopeful that these musicians, whose distinct voices I knew well, would suggest compositional and improvisational strategies and orchestrations. I was counting on our familiarity with each other to transcend any awkwardness they might have as first-time performers on the telematic stage. Having performed over a dozen telematic concerts since 2007, I compare the experience of co-locational live performance as somewhere between playing in a recording studio in which the musicians are close-miked and playing in live large hall that has temporal delay.

Compositionally, I wanted to utilize the properties of the telematic medium, latency, multiplicity, and nodality combined with the primary musical textures of heterophony, antiphony, and homophony in the hope of creating an expansive rich sensibility. Even though 25ms audio latency was guaranteed, I wanted to create the illusion of synchrony. I also wanted to feature each improviser as a soloist and in combinations with other improvisers. Finally, through the metaphor of the “inspire and spiral,” I sought to musically realize both of these metaphors through solo features and through the modulation of undulating dynamics, pitch, timbre, tempo, and orchestration.

In *TeleWhorl*, I wanted to first establish each location as an acoustic entity through a call and response between the two spaces; alternating each location, slowly cross-fading, and eventually

merging into one sound mass. The piece opened with brass and woodwinds mixing a combination of air sounds, key clicks, subtones, and voice which I conducted using a spiral like gesture with each arm, modulating the velocity, volume, pitch to noise, and range. Once fused into a sound mass, it served as a dynamically undulating transient rich accompaniment for a pipa solo by Min Xiao-Fen. This was followed by an improvised duo of pipa and bass between NY and San Diego. The duo accompaniment cross faded from brass and woodwinds to alternating waves of cymbals swells from drummers in both locations.

The drum accompaniment was crossfaded into a series of conducted woodwind and brass clusters with dynamically modulated fermatas led by Sarah Weaver for the pipa and bass to improvise upon. The pitch content of the clusters comprised a tone row which was heterophonically performed by pipa, bass and trombone with coloristic drum accompaniment by Alex Cline. The same tone row was performed in tempo as a bass line, outlining a cyclic series of chord changes for trombone soloist, Michael Dessen, to improvise upon. Michael's solo was followed by metric modulating into a slower tempo for the trumpet solo by Amir ElSaffar. I estimated that a slower tempo by the rhythm section would make whatever latency that existed between New York and San Diego seem nonexistent.

Other strategies implemented were to alternate rhythm and soloist in each location, which started with a New York based duo of alto saxophonist Oliver Lake and drummer Gerry Hemingway. This was followed by an extension of the idea shown in one of the video clips in which tenor saxophonist Hafez Modirzadeh solos with Alex Cline and I as the primary rhythm section in San Diego. Gerry Hemingway joins our rhythm section drumming and adding to the total texture,

followed by Sarah Weaver conducting with punctuated attacks building the texture until the section climaxes. The reality is that there is more than a 25 milliseconds audio delay between both locations and 75 millisecond latency in video. However, my intent was to create the illusion of synchrony by having each rhythm section to work as a unit and have the remote players perform in a heterophonous way. The skill and shared experience of these improvisers cannot be underestimated in effacing latency and creating the illusion of synchrony within the tolerances of a free jazz aesthetic.

Solo features also extended to conductor Sarah Weaver who used the Soundpainting language to lead the ensemble into dynamic shapes and energetic group interaction unique to this kind of gestural language. This was followed by a percussion duo of gongs and sustained metals, setting up a drone texture which supported the final section of the piece composed specifically for Amir ElSaffar and Hafez Modirzadeh, whose music I have performed and recorded. Their music integrates just-intonation melodies emanating from their respective cultural traditions. From working and learning from them in previous projects, I understood which intervals to melodically alter and their relationship to overtones in the harmonic series. As a result, I was able to compose a melody specifically suited to them that wasn't a characterization of their music but rather a melodic approach that I could integrate with our other musicians. My intent was to take advantage of the latency in the network that amplifies the heterophony common to the staggered unison of my melody, the last thematic material of TeleWhorl.

“TeleWhorl” Score Final Section Excerpt:

9  
=a very loose 82

Trumpet in B $\flat$

Tenor Saxophone



6

Tpt.

Ten. Sax.



12

Tpt.

Ten. Sax.



17

Tpt.

Ten. Sax.



22

Tpt.

Ten. Sax.

