

# DOUGLAS MCCAUSLAND

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## Sample Portfolio Work

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### Personal Information:

Institution: Stanford University / CCRMA; DMA Composition Fellow

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### Sample Work 1:

Work Title: *ISOLATE*

Year: 2019

Instrumentation: Live Electronics Performance with Handmade Interfaces in Mixed-Order Ambisonics

Media Link: <https://youtu.be/0bZU3T8L89w>

Note:

Written in 2019, *ISOLATE* was composed as the first piece written exclusively for performance with my handmade electronics performance interface MH3, also known as "Franky".

In this work I am exploring compositional concepts such as performer agency in live electronic music, the use of harshly juxtaposed sonic elements, complex / nested gestural materials, and an investigation of density and texture in higher-order ambisonics. In regards to the sounds themselves, the materials used to create this composition are widely varied and range from closely recorded vocal samples (breath, vocal fry, and so on) to more intense methods of digital synthesis such as granular synthesis and Tom Mudd's gutter synthesis. The result of all of these factors is a work which inhabits both periods of near stasis and the highly chaotic, in which musical materials and gestures continuously fracture and constellate. *ISOLATE* is natively realized in mixed-order ambisonics; many elements are generated in real-time, which are diffused and output natively in fifth-order ambisonics. Meanwhile, there are fixed-media cues which, using MH3 are further manipulated and diffused in first-order ambisonics.

In regards to the interface itself, "Franky" is a real-time electronics performance interface developed for implementation with Max/MSP and Wekinator. Originally designed as a spin on the core design concepts of video game controllers, such as the failed Nintendo Power Glove, this interface makes use of a specially made glove and exoskeleton which places five small 2-axis control sticks at the user's fingertips, alongside of a ribbon sensor and a 3-axis gyroscope. With some practice, this type of interface allows for nuanced control over various parameters in a performance system. Beyond the sensors and interface, this system is further augmented both by carefully tuned mappings, and by the implementation of Wekinator as a platform for building gesture recognition using machine learning. This build of the interface is the third iteration in what is currently planned as an ongoing project.

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### Sample Work 2:

Work Title: *Black Amnesia*

Year: 2019

Instrumentation: Soprano, Bass Flute, Bass Clarinet, Percussion, and Electronics

Media Link: <https://youtu.be/Wwkynu4wNg>

Note:

Written for the TAK Ensemble's February 2019 residency at Stanford University, *Black Amnesia* is a work composed for soprano voice, bass flute, bass clarinet, percussion, and electronics which explores themes of identity, mania, and catharsis.

Compositionally, the work utilizes fragmentation and interpolation as methodologies for crafting relationships between musical materials and text / syntax; concepts which are augmented through the use of live electronics in order to expand the sonic capabilities of the ensemble. The result of this is a chaotic work in which thematic gestures and timbral materials continuously fracture, in which antecedent musical ideas are not necessarily presented with their consequent, and in which excerpts from seven texts are continuously integrated with broken speech.

*Black Amnesia* is a reference to the first of seven texts utilized in its composition, which is an excerpt (lines 18 through 21) from *The Night Dances* by Sylvia Plath.

“... So your gestures flake off-  
Warm and human, then their pink light  
Bleeding and peeling  
Through the black amnesias of heaven ...”

The remaining six texts were collected from the works of Mark Z. Danielewski, Charles Baudelaire, Johann Wolfgang von Goethe, Marguerite Duras, Joseph Conrad, and Dylan Walker of the band Full of Hell.

*Black Amnesia* was awarded an honorable mention in the 2019 Prix CIME International Electroacoustic Music Competition.

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### **Sample Work 3:**

Work Title: *The Space of Two Frames*

Year: 2019

Instrumentation: Soprano, Piano, and Electronics

Media Link: <https://youtu.be/VMo41raPoFI>

Note:

Written for Duo Illegal's May 2019 residency at Stanford University, *The Space of Two Frames* is a work composed for voice, piano, and electronics. Thematically, in this work I am trying to explore the ways in which the unconscious mind exerts its influence over our own present thoughts and mental state, specifically as it relates to conditions such as depression.

Compositionally, the work is focused on the interactions and relationships between the three voices, and the agency with which these entities act. At times, one voice may seek to exert control over the situation through brute force, while at other moments the relationship may be one of ambivalence or submission, and further states in which the context is intentionally nebulous. Ultimately, this manifests as a work which is at times gestural and chaotic, and which at others is recursive and static, and which further explores the gradations between these states.

This concept is augmented musically through a number of technical elements which are utilized in the performance of this work. These technical implements include computer-controlled motors and transducers placed inside of the piano, which utilize the piano as a resonating body, and which are further mediated through physical action. Additionally, the vocalist has microphones attached to the palms of their hands; purposefully presenting a situation in which their own voice is most successfully amplified, and transduced into the piano, by a physical action which would otherwise be most emblematic of smothering one's voice. The electronics for this work are presented in eight-channels as both mediated fixed-media and real-time processing, and are predominantly constructed from the sounds of the human voice, piano, and paper.

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#### **Sample Work 4:**

Work Title: *Tea Time*

Year: 2019

Instrument Design

Media Link: <https://youtu.be/TYD26-dEAfs>

Note:

This sample is a short demonstration I put together while developing an instrument called *Tea Time*. Both the acoustic and digital components are developed with 'nonlinear' and / or chaotic systems in mind. The instrument is constructed from a metal tea-kettle, which is filled with some water and then outfitted with a piezo contact-mic which is passed into a DI and into the audio interface. Adhered to the bottom of the kettle is one end of a metal slinky, which on its other end is attached to a metal plate. The metal plate is outfitted with another piezo contact-mic (also into the DI for blending signals) and a transducer / adhesive speaker driver. This transducer is being driven by an amplifier connected to the 3rd and 4th channel outputs of the audio interface. Because the slinky is firmly attached at both ends, the synthesis which is passed from Max/MSP into the transducer on the plate is picked up in the kettle after having passed through both the slinky and the natural filtering which occurs by changing the angle of the kettle. Finally, the signal from the contact mics is then mixed as desired and passed through a bank of delays, a layer of compression, and finally through a light reverb. Meanwhile, there is a Teensy microcontroller with two FSRs mounted to the kettle which allows the user to control both the delay amount / time and synthesis modulation parameters.

The ultimate result of all of these elements is a playful performance system which employs elements of resonance and both acoustic / digital interaction and mediation. The construction and mapping of the system allows for a complex interaction for the performer in which they are afforded a lot of control over the physical / acoustic properties of the instrument as well as the digital behaviors.