

My Heart is a River: Ghost Affect between Audiovisual Composition and Instrumental Performance

Dr. Freida Abtan
Carnegie Mellon University
abtan@cmu.edu

ABSTRACT

My Heart is a River is a twelve-minute immersive performance featuring cello and surround audiovisual media, written by Freida Abtan for Seth Parker Woods. The piece integrates the presence of the performer on stage with that of his representation in the projected scenography and musical accompaniment. It uses synchresis to create gestures within the audiovisual composition that direct the attention of the audience around the performance space. The author discusses the piece's creation process, constructed affect, and challenges to stage. She notes that the live cellist's performance is colored by attributes from the surrounding media in which he is featured producing a kind of ghost affect between his different representations within the narrative.

1. INTRODUCTION

My Heart is a River is a twelve-minute immersive performance featuring live cello and surround audiovisual media. Commissioned by the Seattle Symphony for their artist-in-residence Seth Parker Woods, the piece premiered in the symphony's experimental performance space, Octave 9 at Benroya Hall, in February 2020. The staging situates the cellist within an immersive audiovisual scenography in which he is already featured. His performance is integrated into the whole, as is his presence. The audience is encouraged to collapse the ontological divide between his projected body on the screen and his physical body on stage, signified to be the same character within the narrative. The combined aural and visual motion within the music and video guide the attention of the audience around the environment, sharing focus with the cellist.

1.1 Narrative

My Heart is a River's narrative draws from themes of displacement. The piece is inspired by Abtan's family story of immigration and the dislocation of identity that accompanies one's culture being judged through another. A cellist plays, and dreams emerge from his instrument. In these, he toasts a friend and together they plan a voyage. After sailing the cello like a boat through rough waters (see Figure 1), the travelers reach their destination: a star-filled expanse where their bodies mirror movement against an invisible barrier, decomposing and reforming

in their choreography. The cello sound is transformed into a foreign landscape haunted by its spectral characteristics. While the projected video depicts scenes of planning, voyage, and celebration, its affect stems from the piece's audiovisual composition, the situation of the live performance, and the impact of sensory immersion on the audience.



Figure 1. Sailing the cello like a boat.

1.2 Composition

The work's compositional vocabulary relies on Michel Chion's concept of 'synchresis', – the tight perceptual coupling of sound and image that informs their sense of mutual 'belonging' [4]. The piece makes use of combined audiovisual movement, within the video, and between the cellist and his surrounding media. The pacing and motion of the fixed music and visual imagery reflect the embodied relationship between the cellist's physical motion and musical gestures, composed as it is from his own movement and music improvisations. The position of the audience further shapes the work's reception, each member holding a different point of view within the immersive composition. Small differences such as proximity to image, orientation of the viewer, or visual obstruction have a profound effect on what dominates the composition and the perspective from which it is perceived.

2. RESEARCH QUESTIONS

Work by composers such as Thomas Adès has explored how audiovisual motion can enhance the experience of instrumental performance [2]. Building on this corpus, *My Heart is a River* aims to further explore such sensory associations, by setting the cellist within an immersive media context. It asks: how can the audiovisual composi-

tion shape the performer's perceived presence and role within the musical narrative?

Previous research by Vines et. Al. [3], Platz and Kopiez [5], and Tsay [8], has investigated how visual stimulus enhances the appreciation of instrumental performance. *My Heart is a River* takes a more integrated approach, exploring through practice the compositional affect of different narrative, and sensory, associations. Building on Abtan's previous research on "Expanded Presence and Inter-sensory Gesture in Multimedia Performance" [1], which investigated the role of audiovisual composition within immersive media performance, the piece questions how the perception of instrumentation and agency further informs such situated narratives. It examines how the presence of an instrumentalist, expanded through multiple modes of representation can participate within the audiovisual composition. How are the instrumentalist and his musical performance perceived within a highly mediated context where aspects of both have been significantly transformed?

The addition of live instrumental elements expands Abtan's previous enquiries into audiovisual composition within multimedia performance by giving a live performer explicit attributable agency in shaping the piece's form. The composition's affect now relies both on the depicted audiovisual movement and on perceived relationships between the performer on stage and the surrounding, projected media. Woods performs musical gestures which echo and accompany those that appear in the video and music that surround him. His physical motion on stage provides kinesthetic accent to any synchresis causing audiovisual gestures it accompanies.

3. METHODOLOGY

3.1 Materials

The narrative emerged as a pastiche from individually transformed samples. The audio and visual materials for the piece were created through improvisation workshops between Abtan and Woods.

In the audio workshops, Woods played pre-composed phrases and then improvised against loops Abtan selected from their recording. Small samples from these, seeded loops for successive iterations of the process until a body of recordings emerged, snippets of which could be transformed, or used raw, within the composition. Abtan processed and manipulated the source material to give the cello's sound transformational attributes suggesting the physical properties of natural materials, such as those of water and of dense, bouncing, solids. She composed from these and then deconstructed the resultant electronic music to generate a score for Woods and an eight-channel accompaniment.

The video for the piece originated in physical improvisation workshops between Abtan, Woods, and O'Garro where Abtan provided key thematic direction. Abtan then extracted short samples from the raw material based on their visual and narrative interest. These were then transformed under specific visual processing techniques in After Effects that could be seeded with other clips from the pool, creating a kind of temporal and spatial

disorientation around the depicted motion. Abtan sorted the generated material by related narrative content and similar visual pacing to be arranged within the emerging narrative sequence. The video pastiche reflects the temporal structures of the music it accompanies and was created to situate Woods' body within the depicted narrative.

3.2 Development

Final constraints for the audiovisual materials were established in residency at Octave 9, one month before the premiere. The composition was re-arranged to account for the physical realities of the performance's staging and for the audience's differing viewpoints of the media projection.

In performance, Woods plays in tight synchronization with the pre-recorded media. He performs a central voice within the music, created from the raw and manipulated performative gestures that emerged within his original cello improvisations. His sound is embedded within a musical landscape shaped by his own embodied gestural vocabulary. He is similarly visually surrounded by images created in relation to his physical improvisations. He is physically immersed in an audiovisual narrative created from his own unique embodied sense of gesture.

4. RESEARCH INSIGHTS



Figure 2. Imagery was duplicated and size adjusted.

4.1 Surround Considerations

4.1.1 Staging

My Heart is a River is constructed from a body of audiovisual material that must be adapted around the physical situation of Woods in performance. The piece's technical challenges include the tailoring of immersive media choreography within venues of differing media capabilities and layouts as well as the perception of audiovisual compositional dialogue between different modes of representation. The piece must be re-instantiated for each new venue with a different visual composition created from the available materials, still created to serve its role in combined form with the fixed music and score.

The Octave 9 performance staged a continuous projected image surrounding the audience at close distance and of compact height. The audience's differing points of

view impacted their ability to engage as spectators. A central point of view limited access to the screen's periphery while angled points of view favored a single side. Lower portions of the projection were obscured by other audience members. To compensate, imagery was duplicated, and its size and positioning adjusted, see Figure 2. The composition provided a guided visual gaze from each viewpoint that maintained relation to the musical form. Small differences in the availability of narrative imagery and visual motion across occasional duplications added to the complexity of the total affect.

4.1.2 Composition

Due to the proximity, luminosity, and scale of the image, significant darkness was necessary in live performance to delineate dominant focal centers whose luminance could capture the viewer's gaze. Successful mechanisms for localizing the audience's attention included audiovisual synchresis, symmetry, and kinesthetic accent between Woods' physical performance and the motion within the video imagery. The light from the projection was used to define or obscure Woods at key moments in his live performance for heightened dramatic affect. The audience could attend to his playing intermittently with instances of synchresis and high visual impact drawing their gaze towards the video or back to his physical gestures. Wood's performance occupied a central space within the sound diffusion but was hard to isolate. In future, the spatialization of his accompanying music will be simplified and further separated to help localize his live contribution.

4.1.3 Documentation

The documentation of the premiere was unable to capture the scope of the performance's immersive qualities. It focuses on Woods' physical location. While this point of view necessitates a loss of material and immediacy, it conveys the visual relationship between Woods' performance and the surrounding imagery. It serves as its own version of the piece.



Figure 3. Woods portrayed live and within the video.

4.2 Workshop Process

The workshop process for generating audiovisual materials offered several advantages. The iterative musical process encouraged a reduction of formal constraints. The sequential improvisations each gathered slur and tem-

poral elasticity until the created phrases communicated a sense of physical gesture over specific tonal attributes. These phrases were ideal for spectral processing and offered fertile seed for the composition. Being difficult to transcribe, they created variation through interpretation and tonal color between score and accompaniment. They reflect the characteristic flavor of Woods' physical performance and create strong synergies with his live contribution. Similarly, Woods' natural pacing and motion within the video resonate with his physical performance on stage through a congruency of gesture even under significant image manipulation.

4.3 Ghost Affect

Woods' narrative characterization is constructed through several modes of representation. He is portrayed on stage, live, present in the same temporal-spatial moment as the audience, outside of the production's theatrical discourse. He is portrayed through mediated representations within the video projections, derived and digitally constructed from performances that took place in the past in front of a camera. Both modes of representation are signified to function simultaneously as presence within the theatrical discourse of the production. Both of them are *staged*¹.

The projected versions of Woods reside in a non-linear temporal field in which multiple versions of his self can co-exist. These are each animated in exaggerated temporal scale, drawing attention to specific aspects of their visual motion. The depicted visual gestures echo and mirror those performed live, and those within their accompanying music. The composition guides the attention of the audience and draws attention to the similar shapes and planes of movement created by Woods' performance. The scale, luminosity, and visual treatment of these projected bodies imbues their perceived characters with a kind of dream-like mythological presence. Their affect bleeds into the audience's experience of the live performance, which inherits from its ghostly doubles.

5. DISSEMINATION

The piece premiered in a concert curated by Woods to explore the intersection of instrumental performance and narrative. The performance featured 270° of continuous video projected in a horseshoe configuration, and an eight-channel ambisonic sound spatialization, surrounding a high-profile audience of the symphony's producers and donors, seated in sections angled towards the middle of the screen, facing Woods. The work was celebrated in review [6] for its emotive qualities and use of audiovisual motion to frame Woods' performance.

Further iterations of the piece have been staged to the specifications of other venues. These include the Time:Spans Festival 2021 in New York City where the video projections were reduced to two high resolution screens with an aspect ratio of 32:9, and a single screen version of the video projection with aspect ratio of 16:9 at the University of Buffalo. The coronavirus pandemic in 2020-2022 moved much artistic programming online,

¹ According to Cormac Power's explanation of theatrical presence [7].

resulting in the documentation of the premiere serving itself as a feature. It was screened at several online festivals including Seeing Sound, New Music Gathering, and PureGold 2020. A stand-alone video made from the projection materials was featured in a paid streaming event produced by the Kaufman Music Center.

A future iteration of the piece is currently being developed, extending the production to one hour.

6. CONCLUSIONS

In *My Heart is a River*, the live performance and projected aural and visual media create intersensory events and gestures that can be perceived as a unified compositional vocabulary. Both the workshop process for creating materials and the surround projection of those materials contribute to the audience's experience of Woods' shared presence across multiple modes of representation. In presentation, the affective attributes of these representations become blurred. The live performance resonates with the aesthetic characteristics of the surrounding media.

Acknowledgments

My Heart is a River could not have been developed without the generous support of the Seattle Symphony. I would also like to acknowledge the contributions of Seth Parker Woods beyond his role as performer. His improvisations formed the bones of the composition. He inspired the work and brought it to life.

7. REFERENCES

- [1] Abtan, Freida. "Fear of Flight: Expanded Presence and Inter-disciplinary Gesture in Multimedia Performance," PH.D dissertation, Music Dept., Brown University, Providence, RI, USA, 2013. [Online]. Available: Brown Digital Repository.
- [2] Adès, Thomas. *In Seven Days*. T. Rosner (video). The Chamber Orchestra of Europe, Performed at Kölner Philharmonie, Cologne, Germany, May 22, 2010.
- [3] B. Vines, C. L. Krumhansl, "Cross-modal interactions in the perception of musical performance," *Cognition*, vol. 101, no. 1, pp 80-113, 2006.
- [4] Chion, Michel. *Audio-vision: Sound on Screen*. Columbia University Press, 2019.
- [5] F. Platz, R. Kopiez, M. Wanderley, and D. J. Levitan. "When the eye listens: A meta-analysis of how audio-visual presentation enhances the appreciation of music performance," *Music Perception: An Interdisciplinary Journal*, vol. 30, no. 1, pp 71-83, 2012.
- [6] T, May. "A Letter from Seattle," Special issue on Sounds of America. *Gramophone*, vol. 110, no. 36, pp viii, April 2020.
- [7] Power, Cormac. *Presence in Play: a Critique of Theories of Presence in the Theatre*. Brill, 2008.
- [8] Tsay, Chi-Jung. "Sight over sound in the judgment of music performance," *Proceedings of the National Academy of Sciences*, vol. 110, no. 36, pp. 14580–14585, 2013.