

Remote Audio Recording for Musicals

A “Theoretical” Approach



Photo by Mark Mineart - 2020

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To the extent that the spectacular and theatrical acquired new forms, the theater, suddenly decentered, was obliged to redefine itself.

-Josette Féral 2002

Abstract

During the 2020 COVID-19 pandemic, theatrical producers worldwide were faced with the challenge of how to produce musical theatre while bringing the risk of infection down to acceptable levels. As Otterbein University Department of Theatre and Dance prepared to produce *The Theory of Relativity* on-stage (filmed to stream), it was clear that normal onstage singing was not feasible. Therefore, all dialog, singing, and most sound effects were pre-recorded 100% from the performers' homes and living spaces. Final stereo files were created, with which the performers matched their actions onstage in order to reduce the aerosols exuded into the shared space. The video and audio recordings were then combined into a finished product for the audience to stream. The process of creating this recorded-to-stream staged piece led some among the cast and crew to re-evaluate their definitions of what does and does not constitute a live "Theatrical Performance."

*Think when we talk of horses, that you see them
Printing their proud hoofs i' the receiving earth;
For 'tis your thoughts that now must deck our kings,
Carry them here and there; jumping o'er times,
Turning the accomplishment of many years
Into an hour-glass: for the which supply,
Admit me Chorus to this history;"*

-William Shakespeare: Henry V

Introduction

For Otterbein University's Fall 2020 season, it became quickly clear that the first show of the season could not be produced as planned due to the worldwide COVID-19 pandemic. The original title, *Our Town*, could be produced in-person with minimal staging, props, and costumes, but to perform the show as-written required performers to be in close-contact with each other, which was not recommended by most medical authorities. In addition, the rights to stream online to our audience were not available at the time. Many alternatives were discussed, including normal staging and production with masks, remote video recording using laptops and webcams, or a combination of the two. In the end, it was decided that the season would change this show to a musical, *The Theory of Relativity* by Neil Bartram and Brian Hill.

This show was chosen partially due to its structure which allowed staging to reflect recommended social distancing. It also had an appropriate cast size and structure for the available performers. The show also was one of the earliest available for online streaming utilizing the ShowTix4U.com platform. There was still a risk, however, that singing together in a confined space, during rehearsal or performance, could result in transmission of the virus. Ultimately, the decision was made to audio-record all vocal elements remotely from the performer's homes and perform the show silently to the resultant playback on-stage at appropriate social-distance. The staging would then be filmed, and the audio and video files synced together for later streaming. The performers would be masked, both to increase safety and to eliminate the need for exact lip-syncing. The resultant production blended the lines of live theatrical performance and recorded media.



Screenshot of final video product.

Pre-Production

Around July 2020, the concept of “super-spreaders” began making waves within and around collegiate theatre and music programs. One article, *Transmission of SARS-CoV-2 by inhalation of respiratory aerosol in the Skagit Valley Chorale superspreading event* by the University of Colorado suggested that singers in a confined space could create “Superspreader Events,” dramatically increasing the risk of Covid-19 infection between performers singing in an enclosed environment. This article specifically cites the increased aerosols generated by singing causing increased infection among a Chorale group. (Marr 1)

By late August 2020, it was clear that staging a musical in a standard manner, with the performers interacting onstage, sharing props, and singing directly at each other, was not a safe, feasible option. Kristen Cooperkline, former Production Manager at Otterbein, said, “[The decision to move to a streamed production] was both very difficult and seemingly easy. As a department faculty/staff, we were committed to giving our students a theatre education. [...] As conscientious members of society, we wanted to minimize the risk that

COVID-19 presents as much as possible.” Melissa Lusher, Director of the production, said “For maximum safety, the decision was obvious. It was the best choice for protecting the health of everyone involved.”

In collaboration with the director, musical director, producers, and sound designer, it was decided that the safest route was to pre-record all vocal performances completely remotely (with no performers being in a room with any other member of the cast or crew) and have the cast perform their blocking onstage without speaking or singing, but synced to the completed tracks. Flesh-tone facial coverings would be worn during the performance to improve safety as well as eliminate the need to perfectly match facial performance to the pre-recorded lines. T.J. Gerckens, the chair of the department stated “At first it seemed like a colossally bad idea, one that had tremendous potential to yield an entirely unsatisfying experience for the audience and process for the performers. As we explored it however, the fact that the performers were to be masked [...] made it more appealing, and it yielded a different, but good experience for the performers. In the end the fact that it was really the only way to produce a musical safely during the pandemic made the decision obvious and very easy.” Lusher also stated “Interestingly, the decision provided both significant obstacles and unexpected educational benefits. For example, a major downside to the decision to pre-record was that it forced the actors to ‘lock down’ their choices very early on without the luxury of the full rehearsal process to make discoveries. As challenging as that was, it also gave the student actors the chance to learn how to make clear, compelling choices.”

In late August, Otterbein University released its' "Return to Campus" plan, including rules about spacing, reduced room capacities, and "airing-out" time between occupants. These rules made it clear that one initial idea of having all the performers come into the pre-built recording studio in Cowan Hall was not feasible. It would take too much time in the schedule to allow the HVAC system to fully replace the air between performers and due to the layout of the building, the musical director would not be allowed in a space that would let them see and interact with the performer. In addition, the university's "Phased Return to Campus" plan meant that not all members of the cast would be physically on-campus by the time the recordings needed to be compiled and mixed for on-stage and technical rehearsals.

Due to these limitations, it was decided that each performer would receive their own discrete recording kit, connect to their own computer, video conference with the Sound Designer, Musical Director, and Stage Manager, and record their songs and lines to their own computer. After these were recorded, the digital audio files could be sent to the Sound Designer and compiled, mixed, and mastered. This would eliminate contact between the performers, cast, and crew (as they would all be located in their own spaces) while allowing the production team to hear the recordings as they happened in order to give notes on the performance.

For a recording kit, the university contacted Sound Productions in Irving, TX. After discussion with their representative, they purchased 17 PreSonus Audiobox Studio bundles. These bundles consisted of a PreSonus Audiobox 96 audio/MIDI interface, a PreSonus M7 condenser microphone, PreSonus HD7 headphones, and all interconnection cables. In

addition, Shure A32WS foam windscreens were purchased to reduce plosives, and JamStand-brand boom-style tripod microphone stands. The Presonus Audiobox bundle had the benefits of being affordable, being in-stock and available, and packaging most of the items together in a single small box (which was beneficial for the kits that had to be shipped to performers out-of-state.)

Each kit was tested, set up, labeled, and repackaged by the Sound Designer and Assistant Sound Designer (wearing masks and gloves to reduce any surface transmission.) Each performer received two packages – one containing the recording kit and one containing a microphone stand. The performers who were on-campus were allowed to pick their kits up on-site in a no-contact exchange (where equipment was left in a pre-determined location and picked up by the performers), and the others were shipped via USPS.

To help student performers set up the equipment properly, the Sound Designer composed a four-page document of instructions on how to connect the equipment to their computer, install the necessary software, and prepare their space for recording. In addition, a short “how-to” video was produced and placed on YouTube to assist with equipment setup. The Sound Designer also ensured that all performers had e-mail and phone access to them if they had questions about the setup process.

Setting up the Equipment

This is at the end of the document, so you can scroll to it easily.

Firstly, you can check out this YouTube video which goes through the process:

<https://www.youtube.com/watch?v=5--HuhAf9Tw>

You can also follow the instructions listed below.

- 1) Unpack all equipment
 - a. Keep **all** boxes and packing materials – these are expected back with the gear!
 - b. Make sure you have all of the following things:
 - i. Audio Interface (box that's labeled Audiobox 96)
 - ii. Microphone (labeled "M7")
 - iii. Microphone Stand (in separate box)
 - iv. Black USB Cable
 - v. Blue Microphone Cable
 - vi. Headphones
- 2) Set up microphone stand
 - a. All screws are clockwise to tighten and counter-clockwise to loosen.
 - b. Make sure stand is firmly secure before the session
- 3) Attach microphone to stand
- 4) Attach microphone to interface
 - a. Use "Mic/Inst. 1"
- 5) Attach headphones to interface
 - a. Plug is on the "rear" of the interface, and is labeled "Phones"
 - b. Ensure you have the headphone adapter plug on the end of the headphones!

Excerpt from "Setup Instructions" sent to performers.

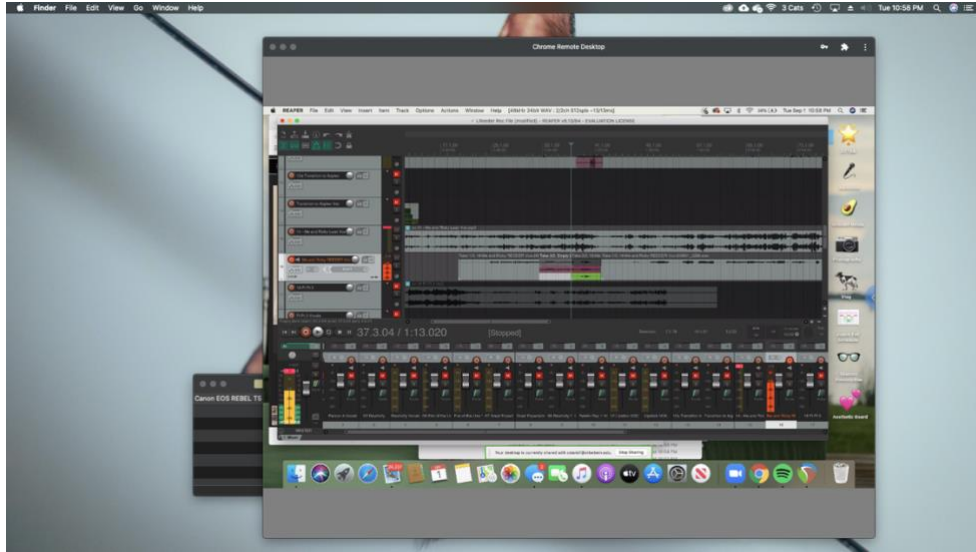
Recording Sessions

Piano Tracks were the first to be recorded, on August 24-26. The Musical Director acted as the pianist and was recorded from a different room by the Sound Designer. A Yamaha P45 digital piano was run through a Radial ProAV2 DI and into a Steinberg UR242 audio interface. A SM-58 "room microphone" was also recorded (primarily so the Sound Designer could hear the Musical Director speaking to him), but not used in the final mixes. A QSC K10 powered loudspeaker acted as the Musical Director's monitor and was also fed a talkback microphone from the Sound Designer. Piano tracks were recorded in-order to create individual Logic Pro files. Minimal editing was necessary for the piano tracks, but those edits were primarily completed before the tracks were sent to the performers.

At this session, video was also recorded of the Musical Director conducting the pieces. The goal was to have a video track in each file so that the performer could see the MD directing them; however, this idea was scrapped quickly in the recording process due to the difficulties in properly lining up the video with the audio, large file size, and causing heavy load on the performer's computer processor (often resulting in the file not opening at all or causing obvious recording glitches or stutters.)

Once piano recording was completed, the Sound Designer and Assistant Sound Designer did a quick "mixdown" of the tracks (primarily just dynamics compression) and created REAPER .rpp files to send to the performers consisting of the piano track, a vocal track, and all settings pre-set (with the hope that very little tweaking would be necessary upon opening each file.) REAPER was chosen due to its generous "demo" policy, full-features, and lightweight code (allowing it to run on less-powerful systems.) Other Digital Audio Workstations (DAWs) considered were Audacity (originally excluded due to its lack of video playback), Garageband (excluded due to not all performers having Mac computers), and Studio One (which came with all of the recording kits, but which had never been used by the Sound Designer on a project).

Vocal recording commenced on August 28, 2020. Performers and production staff gathered in a BlackBoard Collaborate Ultra video conference so they could communicate between takes. The first portion of each session was ensuring that the audio equipment and software was properly set-up and configured. Google's Chrome Remote Desktop allowed the Sound Designer to see the recording software and system settings and to quickly fix problems that arose.



Screen-sharing with performers to troubleshoot software.

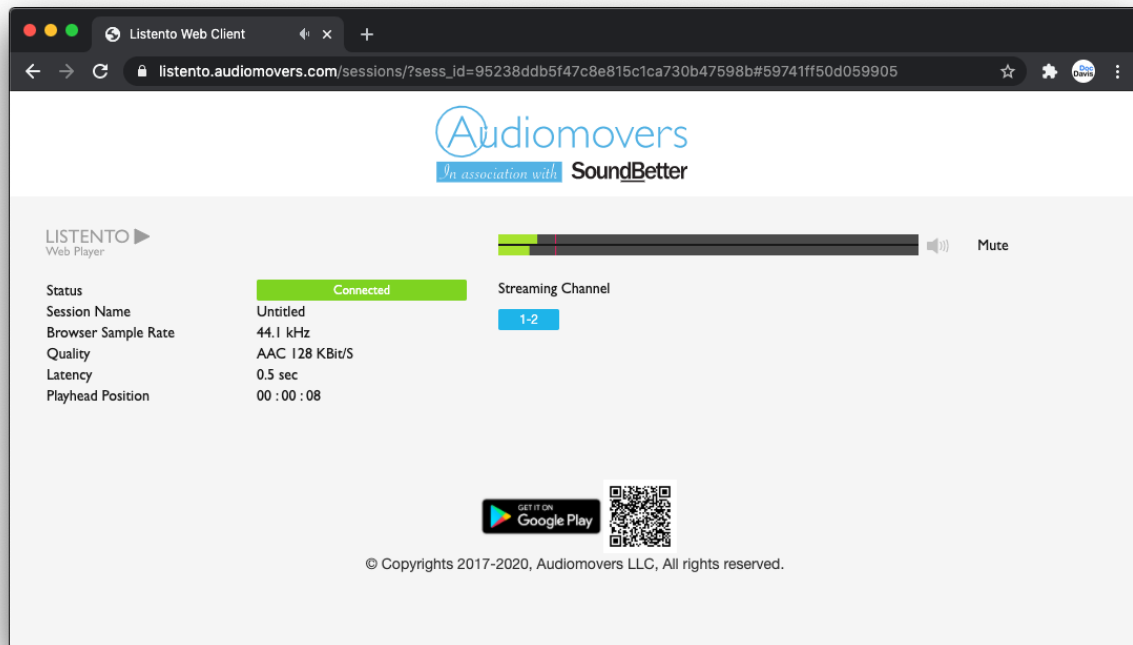
In addition to REAPER acting as the DAW, a plugin by AudioMovers called ListenTo was utilized. This plugin streams a full-resolution, uncompressed audio stream from the DAW to a website which may be accessed by multiple people. This was placed across the main stereo output in REAPER allowing the Musical Director, Sound Designer, Assistant Sound Designer, and Stage Manager to hear a full-resolution (slightly delayed) signal from the output of REAPER. While using this, the performer would mute themselves in the video conference to reduce echoes.

The performer would then record their parts to the piano tracks and receive instruction from the Musical Director and Sound Designer on notes such as adjustment of gain or clarification on pitches. All recorded files were recorded as 44.1k 16-bit WAV files for a balance of quality and ease of creation and sharing. REAPER has a fairly in-depth “take” system which allowed multiple takes to be done of different sections of the song without having to re-record from the beginning. These ‘takes’ were recorded as separate

WAV files which could then be compiled by the Assistant Sound Designer into full “takes” with fades between any audible take-transitions.

One piece, *Lipstick*, was spoken-word over piano. While the lyrics didn’t exactly match tempo with the piano track throughout, there were several points where the piano would need to change or “react” to something a character said. In addition, the song is performed by two vocalists who have very small or nonexistent pauses between lines. Due to the complexity of the timing of this piece, the two performers were brought in (masked) during the piano recording process and recorded a “scratch” vocal take on Shure SM58s in a different room than the Musical Director playing on piano. This allowed the three performers to “interact” in a realistic way as we were recording the piano track. While the quality of the masked singing was not good enough to be used for the final recording, it did allow for a “template” for the performers to time their final recordings, similar to the process of ADR (Automated Dialog Replacement) in a film, where “scratch” location audio is re-recorded later in the studio due to the original recording being unusable due to noise or other factors.

With a few exceptions, the system installed and worked very well on the performer’s computers. Occasionally strange audio-output issues were observed, but most of these were resolved by installing the ASIO4ALL audio driver and utilizing that within REAPER. Since the physical recording hardware was set-up prior to disbursement, most of the technical issues were traced down to something like the 48v phantom power being off or the volume knob being turned all the way down. Performers expressed gratitude at the breadth of instruction, both written and video, that was given to help them navigate the process.



AudioMovers ListenTo Screen allowing production team to hear high fidelity audio from performer's DAW.

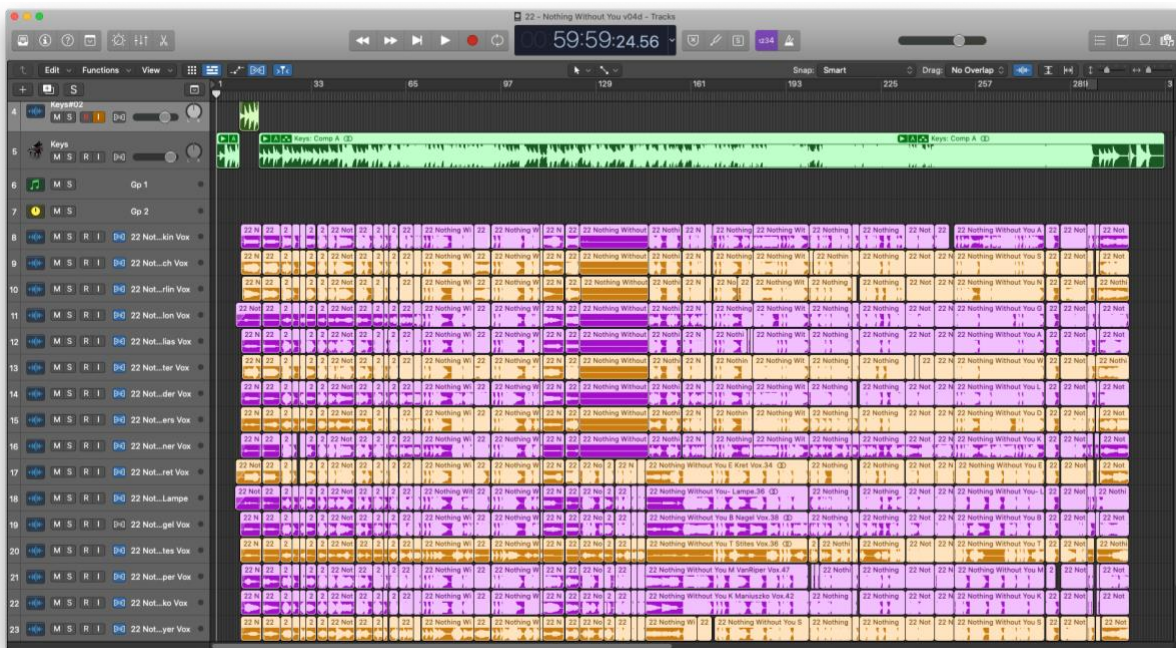
Editing/Mixdown

Vocal takes were transferred and combined into single “final” takes in REAPER by the Assistant Sound Designer. These “finished” takes were then sent to the Sound Designer. These were combined with the original piano tracks in Logic Pro and carefully aligned to be mixed and mastered together.

Unfortunately, errors in synchronization were rampant. Differences of as much as 2-3 seconds were noted when the files were lined up to match at the very top of the file. It is believed that this was due to one of three reasons. One possible cause could be the usage of an MP3 (non-Pulse Code Modulated) format for the piano track, in an attempt to lower file size. A PCM format such as WAV or AIFF, assuming no accidental changes in sample rate, should allow exact synchronization between tracks. Another possible issue could be corruption of the audio files as they were being recorded on computers that were not

powerful enough for full-resolution recording. Some noise was noted in files received from some performers, which could be an indication of error in the recording's sample rate. A third possible cause could be lack of a conductor causing pick-ups and cut-offs to just not match due to a lack of visual synchronizing presence.

Compiled files were de-noised (using Izotope's RX8) but the damage to the synchronization was done and would need to be corrected manually in the DAW.



Screenshot of Logic Pro on group number (“Nothing Without You”) showing required synchronization edits.

The first step in correcting these issues was to line up all pick-ups that involved multiple people. Typically, this would be as simple as making an edit just before the pickup and moving the edited clip to begin at the proper time. There were many cases where this had to be done for each lyric of a song, as the synchronization loss would be evident even from four bars of music. Once all entrances lined up, cut-offs were massaged using Logic Pro's built in Flex-Time editor for short edits and Celemony's Melodyne software for more

lengthy edits. The Flex-Time editor, when used sparingly, was very quick as it didn't require "transfer" into the software – just a fast analysis from Logic Pro. However, if making an adjustment (lengthening or shortening a note) of more than about a second, there were often artifacts or other glitches that were audible. Melodyne did a better job on longer edits, however still exhibited some audible changes if the note was adjusted more than two to three seconds.

With most tracks being transferred to Melodyne, it would have been possible to pitch-correct notes fairly quickly. This was not done for several reasons. Firstly, it was not necessary in most cases. The performers, on the whole, were on-key with each other and the piano throughout the show due to being able to hear and match the piano as they recorded. Secondly, it was important to the Director, Musical Director, and Sound Designer that this production be presented as "live" as possible – mistakes and all. It was felt that the audience would prefer a show with this "live" sound over a show with a perfectly pitched tone. With only a few exceptions, Melodyne and Flex Time was only used to correct the technical errors that arose during the recording process and not to modify the performance of the actors and actresses.

Each track was mixed either by hand-programming automation or by utilizing a Waves Vocal Rider plugin on fairly low-impact settings. Most clips were given one-third second fade-ins and fade-outs to reduce clicking with the large number of clip edits. In addition, many songs utilized "groups" of performers (men and women, group A and group B, etc.) In those cases, Aux Sends were created to help balance the "groups" of inputs with

each other more easily, with additional volume automation also happening within each track sent to the Aux.

Other than built-in equalization, the piano was typically used “dry” – just as it was recorded with no effects or inserts. Most vocal inputs received Waves C1 compressor plugin for overall volume leveling while using the built-in Logic Pro parametric equalizer for channel EQ. If Aux Sends were used (typically when more than 2-3 people were singing at once) they would traditionally be given a Logic Pro Silververb and one or two copies of a Waves L2 Ultramaximizer limiter. Occasionally, an Izotope Vocal Doubler would be used to help thicken a part that only a few people were singing on, although the effect was very minor.

Mastering

Mastering is ultimately not something commonly performed in theatrical settings. In Bob Katz’s text *Mastering Audio: The Art and the Science*, he states “[I]t is the responsibility of the mastering engineer to ensure that the audio quality which leaves the mastering studio is the same quality that will be represented on the final medium.” (Katz 20) Said another way, mastering is the final step of preparing discrete audio files into a cohesive unit, whether that is a CD, 8-Track tape, or a stream of a theatrical performance. The dynamics of the room and the ears of the performers that allow one song to lead smoothly into another in the auditorium do not exist in a video recorded medium. Due to this, it is up to the mastering engineer to ensure a coherent cohesive experience. Mastering commenced once the tracks had received a final mix (approved by the Sound Designer, Music Director, and Director.)

The mastering signal-chain typically consisted of a Waves L2 with a brick-wall limiter (which reduced the volume of the loudest parts of the signal with a hard limitation at -0.10db) and a Leapwing Audio DynOne 3 multiband compressor. The DynOne was especially helpful in giving a consistent sound to varied tracks – some which were solos and duets, some which were spoken word over piano, and some which were large group numbers utilizing the full cast. The show overall had a fairly large dynamic range (meaning the difference between the softest parts of the audio signal and the loudest parts,) again in an attempt to help recreate what the experience would be “live.” Dynamic range measurements utilizing MAAT’s DROffline software showed the finished tracks to have Dynamic Range values of DR6 (very compressed) to DR14 (very dynamic) with an average value of DR11. While the finished product sounded very good, once compressed for streaming there were some instances of audible noise in quiet sections, so it is recommended that a show designed for streaming utilize a slightly lower DR (of DR7-DR9.)

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Theory Roughs_dr.txt
Analyzed Folder: /Volumes/Field Of Reeds/Google Drive/Show Archive/28 Theory of Relativity/
Theory Roughs/Theory Roughs_dr.txt
DR      Peak      RMS      Filename
-----
DR8     -0.10 dB  -10.22 dB  01 - Person A v83d.aif
DR6     -0.10 dB  -9.28 dB   02 - Relativity v85d.aif
DR12    -0.10 dB  -14.97 dB  03 - Allergic to Cats v81K copy.aif
DR14    -0.10 dB  -20.71 dB  04 - Cake pt1.aif
DR12    -0.10 dB  -15.20 dB  05 - Pt1 v87d.aif
DR8     -0.10 dB  -12.28 dB  06 - End of the Line v83d.aif
DR14    -0.10 dB  -17.51 dB  06a - End of Line Playoff v85d.aif
DR10    -0.10 dB  -12.90 dB  07 - Great Expectations v86d.aif
DR10    -0.10 dB  -17.06 dB  08 - Relativity Rep 1 v83d.aif
DR11    -0.10 dB  -14.85 dB  09 - Footprint v87d.aif
DR14    -0.10 dB  -20.20 dB  10 - Cake pt2.aif
DR14    -0.10 dB  -19.56 dB  11 - Pt Pt 2 v85d.aif
DR13    -0.10 dB  -16.07 dB  12 - Lipstick v83d.aif
DR7     -0.10 dB  -11.74 dB  12a - Transition to Apples v85d.aif
DR9     -0.10 dB  -12.22 dB  13 - Apples and Oranges v83d.aif
DR9     -0.10 dB  -12.85 dB  14 - Me and Ricky v85d.aif
DR13    -0.10 dB  -17.09 dB  15 - Promise Me This v83d.aif
DR13    -0.10 dB  -16.47 dB  16 - Cake pt3.aif
DR13    -0.10 dB  -22.80 dB  16a - Pt pt2 and a half v85d.aif
DR10    -0.10 dB  -15.15 dB  17 - Julies Song v83d.aif
DR10    -0.10 dB  -15.25 dB  18 18a - Pt Pt 3 and Relativity Rep 2 v85d.aif
DR10    -0.10 dB  -12.84 dB  19 - Relative Pitch GAP TO MATCH.aif
DR7     -0.10 dB  -9.86 dB   19 - Relative Pitch v87d.aif
DR9     -0.10 dB  -12.88 dB  20 - You Will Never Know v85d.aif
DR10    -0.10 dB  -16.47 dB  20a - Person A Reprise v82d.aif
DR14    -0.10 dB  -17.90 dB  21 - Manicure v81.aif
DR7     -0.10 dB  -10.24 dB  22 - Nothing Without You v86d.aif
DR13    -0.10 dB  -16.70 dB  23 - Bows CUT v82d.aif
DR14    -0.10 dB  -18.00 dB  24 - Exit Music v81K.aif

Number of Files: 29
Official DR Value: DR11

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Screenshot of output of MAAT’s DROffline showing individual track’s Dynamic Range values as well as Peak and RMS output.

Tech and Dress Rehearsals

The technical and dress rehearsals were, for all intents and purposes, identical to a typical tech and dress process with only a few significant changes. The entire cast, crew, and design team were masked whenever they were inside the space and a strict six-foot social distance was put in place (requiring the tech tables to be spaced out further than normal so the Lighting Designer, Lighting Board Op, Sound Designer, and Stage Manager could be on the same eyeline.) Even with these modifications, very few eyes were focused upon the stage. One of the broadcast cameras was brought in early and set up as a wide-shot of the entire stage with video monitors on the Lighting Designer and Stage Manager's tech tables so the creative team could see the visual effect happening on-screen (as the audience would view it.) Although there was some disparity between monitors (being consumer models and being of different brands), overall the Lighting Designer, Choreographer, and Director were able to see a good representation of what the final video might look like.

The finished product was staged in the Fritsche Theatre at Cowan Hall located on-campus at Otterbein University. Staging was completed in conjunction with the campus Safety Officer, Tara Chinn, to ensure the safety of the performers. Each performer had a "home location" consisting of a box onstage. These boxes were strategically placed to allow performers to move around the stage without impeding the 6' social distance. Other than these boxes, a large backdrop consisting of a steel grid with puzzle pieces was used, with the cyclorama visible behind. Performers staged their blocking while lip-sync'ing under their masks to reduce aerosol emission into the stage space.



Production photo showing boxes and backdrop. Photo by Mark Mineart - 2020

For onstage monitoring, four QSC K8 loudspeakers were utilized – upstage left and right and downstage left and right. For the apron, EV S40 loudspeakers were placed at head-level on lighting booms stage left and right to avoid a dead spot downstage of the proscenium. The main house loudspeaker system (a permanently installed L’Acoustics system) was also used at a low volume in order to assist the on-camera microphones to capture a clear signal to be used in syncing the audio to the video later.

QLab 4 was used for playback with each output on a discrete send. A Focusrite Saffire Liquid 56 Firewire audio interface was used to send the audio via ADAT Lightpipe to a Yamaha LS9 digital audio console. The console routed the signal to the monitor and mains and added an output delay, effectively “locating” the sound at the position of the up-stage monitors. This allowed the acoustic power of the onstage monitors to contribute positively to the sound in the house without causing phase issues with the sound in the

house. This is a commonly used technique for dance performances and worked fantastically here.

The only non-recorded inputs consisted of two “God Mics” of switched SM-58s, one for the Director and one for the Stage Manager. These were located on the console such that they could cause the audio playback to “duck” the sound of the god mics – turning down the volume when the god mics were activated, to allow any notes to be heard clearly.

Finished mixed and mastered tracks were given to the video editor as 44.1k 16-bit .AIF files. These files were synced with the on-camera audio captured (which was fed from 5 floor microphones across the apron of the stage) at the time of filming. The only time the floor microphone feed was used was during a number called *Relative Pitch* which includes stomping and clapping (which was not recorded with the vocals but captured live.) Although this resulted in some increased noise (from the floor microphones capturing sound from the on-stage monitors) it was not distracting in the finished product.

Filming commenced on Friday, September 25. The production was performed as a single take with only one ‘hold’ for a lighting issue, during which the cameras continued to roll, and was filmed from three angles – wide/medium/tight using three cameras spaced out in the audience seating areas. The stage manager called lighting and audio cues exactly as they would for an audience. In fact, the only indication that this production was different was that the opening night audience was replaced by a production team at tech tables.

The first night of filming went fantastically and the intention was to film a second run as a backup. Unfortunately, a performer received a positive COVID-19 test the morning after filming. For the safety of all involved, and after discussion between the Director and

Production Team it was quickly decided to use the single Friday-night run as the finished version.

Recorded Media vs. Live Theatre

Many discussions were had between cast, design team, and crew, as to what artform was being created during the filming of this production. It didn't fit neatly into the categories of "Live Theatre" without an audience present, however it also didn't comfortably fit into the labels of "Film" or "Television." In Unmarked: The Politics of Performance, Peggy Phelan makes their opinion on "live" vs "reproduced" performance clear. "Performance cannot be saved, recorded, documented, or otherwise participate in the circulation of the representations of representations: once it does so, it becomes something other than performance." (Phelan 146) But is that the case? Due to the lack of direct audience interaction, many theatrical professionals ascribe the thought that "Streamed Theatre" is distinct from "Live Theatre." When asked, Melissa Lusher (Professor and Director of *The Theory of Relativity* at Otterbein) stated "[The production] was live in the sense that the actors filmed the production together onstage, [...] but it was not live in the sense that every note of every song and every word of every line was pre-recorded." A performer in the show, Logan Reeder, stated that they "[did] not think that this production could be defined as "live theatre" for the simple reason that it did not have an immediate audience." From these responses, it can be iterated that there is a distinction between the project we produced and "Theatre." It does seem that there is a schism in belief between theatre "performers" and "technologists." Kitty Mader, the Assistant Sound Designer for the show stated, "We had no intention of filming a movie here; it was meant to have a theatrical heart and essence." Maren Billy, the

Stage Manager for the production said, “Actors interacted, I called crews, we had a run crew, and we recorded live acting!” Perhaps there is a distinction between the Design/Tech ideal of participation with an audience in their duties. If all goes well, a fly operator does not adjust their performance based on the audience’s perception of the work, nor is it typical for a lighting board operator to adjust lighting hues or levels differently based on a different audience. It cannot be argued that the audience’s enjoyment or connection with the work does not affect the energy of the performance in a live setting. However, given the COVID-19 pandemic, perhaps the needs of the audience members are different – perhaps any interaction with performer (virtual or otherwise) can constitute theatre.

Susan Sontag, in their work *Film and Theatre* postulates “If an irreducible distinction between theatre and cinema does exist, it may be this. Theatre is confined to a logical or continuous use of space. Cinema [...] has access to an alogical or discontinuous use of space.” (Sontag 29) In other words, in “theatre,” someone is either *on-stage* or *off-stage*, with no in-between. There’s no possible direct interaction between people that cannot be seen concurrently. With the language of film, the audience can be directed to focus on a singular person out of a group in a manner that is more difficult in live theatrical production. Difficult, and not with the precise focus available to film and video, but not impossible. T.J. Gerckens, Associate Professor, Lighting Designer USA829, and Chair, Otterbein Department of Theatre and Dance, states “As a lighting designer, one of my main tasks is to direct the audience member’s eye to what is most important. I work with the director, set designer, and the rest of the creative team to compose the stage picture so the audience is unconsciously guided to look at the most important subject in any scene. Sometimes this

can be as obvious as a follow spot against a darkened stage. Sometimes it is as subtle as structuring a cue so that the light is brighter by 10% where we want them to look, with the lines of the light beams and gobo texture pointing to the intended focus, so your eye naturally moves to the bright, shiny object/actor. It is still the audience member's choice, however, whether to be guided or look elsewhere. In film, the director/cinematographer can frame the shot so that the only thing the audience can see on the entire screen is the intended focus, such as a closeup on the actor's eyes, and the only alternatives are looking at your popcorn or the exit signs. In theatre there is more freedom of focus, if you will." In addition, since the introduction of audio cue playback it has become quite commonplace to direct sounds to one side of the stage or area of the house in order to direct the audience's attention. While these methods may not be as heavy-handed as the framing of a camera, the intentionality of the design team of a show to direct the audience's attention has become more common and more practical. Furthermore, this performance adhered to the theatrical concept of having no entrances and exits. The performers began on-stage when the lights came up and all remained on the stage until the final black-out. This led to some (in fact most) shots where non-primary performers were seen onstage, just as they would be had the audience been in the room. This assisted the sense, if not the reality, of "liveness" for the production.

In an update to his seminal work, Liveness: Performance in a Mediatized Culture (originally published in 1999), Philip Auslander states that he would like to emphasize "the historicity of the concept of liveness." He summarizes: "My premise in Liveness is that liveness is not an ontologically defined condition but a historically variable effect of

mediatization.” (Auslander 3) In other words, the definition of what a particular audience defines as “live” is a direct effect of that audience’s experience with the term “live.”

In a COVID-19 world, where the concept of gathering as a large group to enjoy a performance must be eschewed in favor of the safety of the nation and the world, perhaps the traditional definition of “live” must also be modified to fit the times. We should keep in mind that we, as performing artist professionals, do this work for an audience that may not have the same background with the live performing arts as we do. Their experience is no less valid if they consider the work to be “theatre.”

One review from a patron submitted based on the streamed performance of The Theory of Relativity stated “Hello! We just got done watching The Theory of Relativity here in FL! It was outstanding, and such a treat for us to be able to see an Otterbein performance live. I can't imagine all the trials and tribulations that are in play as you try to move forward during this unique time. The tradition of outstanding theatre at Otterbein is certainly continuing.” Another patron e-mailed “What an outstanding performance!! I tuned in on Saturday evening, and I was so overwhelmed by the creativity on the stage ... singing/choreography/costumes/set/lighting/sound ... everything came together to create a memorable experience for the audience. Who knew you could present a musical while social distancing and wearing a mask?!?” These patrons’ unironic use of the words ‘theatre’ and ‘musical’ show that our goal was achieved – to give our audience an experience they couldn’t get from other artforms even while using new presentation techniques.

Auslander, too, agrees that the audience ultimately decides what is “live.” In the same update he states “[S]ome technological artifact [...] makes a claim on us, its audience, to be considered as live, a claim that is concretized as a demand in some aspect of the way it presents itself to us [...]. In order for liveness to occur, we, the audience, must accept the claim as binding upon us, take it seriously, and hold onto the object in our consciousness of it in such a way that. It becomes live for us.” (Auslander 9)

Perhaps the production of *The Theory of Relativity* presented to Otterbein’s audience did not constitute “Theatre” in a traditional sense, and perhaps the distinction between live and pre-recorded artforms may continue to blur. However, it cannot be argued that art was not created, and an audience not affected, by Otterbein University’s Theatre and Dance Department, in a time at which most theatrical venues, events venues, and movie theatres were shuttered. The effects of the pandemic on live theatre continue to the time of this writing and may not be fully understood or realized for many years. In the end, however, what is most important is that, in this time of dire circumstances, a group of students, faculty, and staff chose to press forward in the safest manner possible, to put on a performance. And that is what “Theatre” as an art form might truly be about.

<https://vimeo.com/468712336>

Section (“Apples and Oranges”) of final video (password: audio)

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