# TOWARDS A REMOTE PERFORMANCE PRACTICE

by

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## Abstract:

For artists active during the COVID-19 pandemic, making music before an audience is no longer a possibility. Live streams of solo and small ensemble “living room” performances have sprung up all over the web, making a plethora of content available to the public. In doing so, however, a plethora of questions arise relating to the goals and efficacy of delivering traditional performances through a live stream. This paper seeks to analyses the purpose and effect of five common element found in live performances—in terms of its effect on performers and audiences and its value as something observed in real time—and then seeks to find new modalities that parallel these components, but within a fully remote performance practice. The goal of this exploration is to encourage artists to find ways of presenting works that are aligned with their artistic intent, perhaps even more so within a remote performance practice than was possible within a traditional practice. The author then concludes the discussion by addressing some aspect of performance only available within a remote performance practice as a means of expanding the possible materials of artistic expression.

# I. Towards a Remote Performance Practice: rethinking traditional performance practice in the times of a pandemic

As a direct result of the current pandemic, the ways by which we create and perform music have changed in a significant way, and, it would seem, these changes will last long after the pandemic is over. We can no longer attend performances in a concert hall. We can no longer sit on stage, as we are used to, for practicing and performing music. This, initially, seems like a drastic reduction in what is possible with a performative practice. Performance methods have adjusted to life during a pandemic by mass implementation of the live stream. Recitals and small ensemble concerts now take place on stage to an audience of video cameras and microphones. This technology then broadcasts their performance to the rest of the world, to be received on their computer monitors or cell phone screens.

Instead of asking ourselves, however, "what aspects of performance are gone", I instead choose to ask, "what has performance become?" That is, I choose to make an assumption that all elements of performance practice are still present, but have been recontextualized as a result of the shift from in person to remote performances. For example, the stage, as we have known it for centuries--an elevated wooden platform from which musicians play instruments and collaborate in creating works of art--would seem to be something that audiences will not be afforded the opportunity to sit in front of for quite some time. Performers are still able to stand on such a stage, surrounded by cameras and microphones. But for many audiences, the stage feels lost. This begs the question: who is the stage for? Performers, audience, or both? That is, does the stage exist so that performers have a place to perform in front of a conductor, or does it exist as a way of positioning performers in front of the audience? And if the latter is the case, then is my

desk the new stage during a remote performance? These are the types of questions that I will grapple with in the discussion that follows.

## How Has the Pandemic Influenced Performance Practices?

In the most literal sense, the pandemic has taken away our ability to safely make or listen to music in close proximity. All performances now occur without a live audience and are live streamed instead. Is this a new phenomenon, though? No. Prior to the pandemic, many performances were already live streamed, in addition to having a live audience. The technology to do this was already present, and thus the switch to completely live performances did not necessarily require a complete reconstitution. It would seem that a shift towards greater accessibility was already in motion.

Art has always been inextricably intertwined with cultural practice, and thus reflects changes in cultural values. Artists are a part of a culture, and, as such, could do nothing separate from it, but rather serves to illuminate certain aspects of the culture that it lives within. As humans are not immune to coronavirus, culture too is not immune to this cycle of cultural and artistic change. A move towards widespread digital distribution of performances is already underway. Though, with remote performances now our only option, we find ourselves at the cusp of both significant cultural and artistic reorientation. Now we, as artists, are tasked with collectively navigating this change. Though, as we have already taken the initial steps in continuing performances remotely, relegating performance to that of only live streamed feels as if something is missing. Where does that sense come from? Is "something" missing or is is just different? Prior to exploring those questions, it is helpful to establish two different performance

scenarios: that of the “live” and the “live streamed”, and then compare and contrast the element of performance in the contexts of them both.

The point of origin and purpose of human music making is something that remains speculative. According to music researcher David Huron (2006, 49), the archaeological record suggest that it likely originated somewhere between 50,000 and a quarter of a million years ago. In what one might think of as the Western concert practice from medieval through modern day, music is almost always presented in a specific architectural space: church, concert hall, recording studio, and so forth. Performance practice has always been in a state of flux; there is no one thing that we could call a “traditional performance practice”. However, we could say that in most instances of our more recent lineage, musicians come together in a space, make music through the use of instruments of voice, and observers receive that sound directly while occupying the same space as the musicians. Henceforth, I will refer to this generalized hypothetical of a live performance as the “traditional performance practice”.

Another type of performance practice, which we have been forcibly thrust into, can be distinguished from the traditional performance practice by the use of technology for the distribution of sound through a medium other than air. I will call this the “remote performance practice”. Though, for this discussion, it might be more appropriately called the “other”, since, in its infancy, it has not had time to develop any distinct standards or definition. In the discussion that follows, I define few specifics, but rather only attempt to describe theoretical methods of developing a performance practice that contrasts the traditional performance practice. However, for the sake of clarity, I will use the term “remote performance practice”.

Again, on the surface, the most significant change this pandemic has brought about is that

we can no longer be in close proximity to one another while making or listening to music. In ontological terms, these changes could be discussed in the context of the technology in use for remote performances and its effect on the music. And while that is of substantial consequence, I believe that a more pertinent discussion can take place in phenomenological terms. How does the phenomenon of creating and listening to music change now that all performances must be remote? How do the effects music creation and listening have on people change now that we must create and consume music remotely?

This will be the bulk of the conversation. I will describe what, in my perspective, are the two most important concepts relating to musical performance, outside of any particular performance practice, and then take each of the key components that change when moving from a traditional performance practice to a remote performance practice and relate them to these two concepts: “the human response to music” and “liveness”.

**The Human Response to Music**

Almost universally, people respond to music, many of which are cross-culturally similar (Clayton 2018). The fields of music cognition and music therapy look at how humans respond physiologically, physically, and psychologically. Donald Hodges describes these terms in their article, Bodily Responses to Music (2018). Physiological responses include heart rate, respiratory rate, muscular tension, startle reflex, and so on. More often than not, specialized monitoring equipment is needed in order to know the effect music is having on an individual in these ways, but whether or not someone is conscious of these changes, they shape our experience when creating or listening to music.

Physical responses to music are outward manifestations of our physiological responses to the music, and are what performers or other audience members would take note of when becoming aware of how others are responding to the music; that is these reactions can take the form of non-verbal communication. In addition to these bodily responses, there are individual responses to music based on preference and musical expectation. The field of music cognition seeks to account for these types of responses in addition to responses such as the perception of pitch and timbre, musical memory, preference for particular melodic shapes, emotional responses to music, and so forth, by looking at the way our cognitive faculties process and interpret sound (Stevens and Byron 2018).

A number of neuroscience accounts emphasize that the processes such as imitation, mimesis, entrainment, neural mirroring, and emotion foster an interpersonal sense of being together, in space, at the same time (Clayton 2018, 54-55). These responses are often accompanied by the development of strengthened social bonds, shared mood or emotional states, and, in some cases, shared ideologies. Music is also often used to establish and maintain tradition and can create a sense of shared identity. One term that encompasses all of these responses to music is psychophysiological responses, which includes the physiological, physical, and cognitive (Hodges 2018, 184).

All of these responses are not just measures of how engaged a listener is, but rather, they all are aspects at play in the nature of collective music making and performance. Performers entrain with one another and utilize their emotional responses to sound, in real time, to enhance the valence and arousal within the music (Hodges 2018, 184). Audiences respond psychophysiologically and their physical responses are observed by other audience members and

the performers. The observations by other audience members cultivate a sense of togetherness and reinforce group identity. In instances where there is improvisation, the observations made by performers are used to hone their performance in such a way as to engage the audience even more. In this way, music very much so seems to be a collective, communicative, and unifying experience.

Researchers like Huron (2001, 2006, 2016), Aniruddh Patel (2018), and Stevens and Byron (2018) illuminate striking parallels between music and language. Huron suggests a possible explanation of the origins of music as an extension of language. Other researchers have found that creating and listening to music stimulates cognitive processes linked to the language centers of our brain. And still other suggest that musical taste and expectation could develop based on musical and non-musical sounds heard in infancy. While there is still a need for more research in order to fully understand these connections, it would not be a far stretch of the imagination to say that there are communicative aspects in both the creation and reception of music. Paul Sanden suggests that, what I am calling, the traditional performance practice sets up an "ideal model" of performer-audience communication (2012, 48)

**Liveness**

In both the traditional and remote performance practices, there is the element of "live" as something distinctly different than recorded music, or even "live recordings". The present discussion focuses on performances that contain some aspect of "liveness", which is a fundamental component of both the traditional and remote performance practices.

The term itself has roots in radio, where broadcasts were given this label, since, without

any other sensory cues, listeners had no way of knowing whether what they were hearing was happening in the moment or was prerecorded. The term "live" was then extended to live broadcast in television when advances in technology allowed for that to occur. In the current age of digital technologies, the term is used to describe and even greater number of "live" events. The drastically different usages of the term indicate that the concept of live is broad, far reaching, and multifaceted. So what then is "liveness" when it comes to music?

The term is often used to delineate the difference between a performance and a recording. In the most basic sense, liveness can relate to the notion of real time, in some way. That is, it is concerned with the simultaneity that relates to the production, transmission, and reception of a performance. In terms of the traditional performance practice, the production is an individual or group of performers, the transmission is vibrations through air, and the reception is an in person audience member sitting in the seats a short distance away from the stage.

With the introduction of digital technology, transmission can now involve the encoding of the sound waves into bytes and bits, and the reception could involve anyone, anywhere in the world, with access to that digital audio feed. Though, a description of liveness, in ontological terms, as a result of technological advances, does not quite capture the essence of liveness. Even through a live stream, viewed on a screen, there is a perceived connection to traditionally performer pieces of music through the visual and kinetic associations made through sound (Sanden 2012, 46).

For many, there is a premium involved with live performance. And a live recording is often culturally valued differently than a studio recording, which is not received in the moment it was created, but rather serves as a documentation of a particular moment in time.  In a rhetorical

sense, the term "live" can be used to establish a hierarchy of value (Levine 2008): this is especially true of network television's use of the term "live broadcast" in order to create an influx of viewership who perceive that these broadcasts are of greater importance than prerecorded programming (Es 2017, 1252). It would seem that "liveness" affords viewers the privilege of talking about it with others as if they were there. The same is true for sporting events. These live broadcasts often hold the records for the highest broadcast viewership. Though, even this premium that viewers hold for liveness simply does not account for the entire picture.

At the heart of the issue, the reason for the technology being created in the first place and the premium it creates in the viewers minds has always centered around the social value it creates. Live broadcast and streams all leverage the concept of real time and *sociallity* (Es 2017, 1247) to establish their value as something more than just a recording. There is a linearity to liveness that does not exist with recorded media; if you are not able to listen or see it now, along with the rest of the viewership, you will never be able to. Liveness establishes that whatever is being created in that moment *needs* to be engaged with in the *present*, not later, because whatever it is, it is of value to us as a society (Couldry 2004, 354).

I would argue that, as a collective agreement, the value of liveness is fundamentally based on the social. To adapt the old adage in phenomenological terms as they relate to our discussion; if a tree falls in a forest, and no one is around to hear it, does it make a sound? Or, rather, if a tree falls in the forest, and the sound it makes is live-streamed to an audience of none, is it live? It is happening in realtime, to be sure. The concepts of "real time" and "live" are both occupied by immediacy, but only the live is concerned with immediate connectivity.

**The Human Response to Music and Liveness in the Context of this Paper**

My purpose for describing the "human response to sound" and "liveness" is to illustrate the degree to which humans engage each other during music production and reception. I would argue that most, if not all, aspects of the traditional performance practice have evolved in such a way as to facilitate and heighten all of the ways by which we psychophysicaologically and socially experience music. As we move away from the traditional performance practice and toward a remote practice, I believe that it is important to traverse the complex interactions present in the traditional performance practice in order to see what role it plays in our experience, and then be intentional about how we address these functions as we develop an engaging and rich remote practice.

As it would be impossible to address all aspects of the traditional performance practice, I have identified five key factors as a starting point for this exploration. These five key elements are *immersiveness, proximity, the stage, acoustics,* and *cultural value*. I will explore the relationships between each of these components as they relate to psychophysiological experience and the concepts of liveness. I will begin by exploring these elements in the context of the traditional performance practice, and, in a section that follows, identify possible ways of "translating" these features into theoretical remote performance practices.

## Key elements of the traditional performance practice

### Immersive Experience

I will begin with the concept of an immersive experience. In mindfulness-based cognitive therapy, present-moment orientation is used to describe and open awareness to the external and internal happenings of the present moment (Collins et al. 2019, 111-123). I believe that this is the main goal of creating an immersive experience. That is, the performers and audience members' thoughts, emotions, and bodily responses relate almost entirely to the music making at hand. Certainly there will always be distracting thoughts about future engagements or someone opening a cough drop three rows back, but for the most part, while immersed in a performance, thoughts and senses are focused on the music. I can only speak to my own experience, but this has become increasingly difficult now that I listen and watch performances while seated at my desk. The numerous other associations I have with this particular space in my home are always a distraction. Furthermore, the media platforms many of these live streams are broadcast from—YouTube, Facebook Live, etc.—are designed to have interfaces that are intentionally distracting. These platforms are essentially enormous, digital billboards, and keep users in front of advertisements as long as they can by jumping from content to content.

This is dissimilar to what occurs in the traditional performance practice. Performers and audience members alike leave their routines and enter a space that is often dedicated to the performance of music. This is the space where performers have learned to get into the performance mindset and where audiences are conditioned to listen to music. As James Clear describes in their book *Atomic Habits* (2018), environment is the single most important factor in developing habits. We habitually work at our desks and listen to music in concert halls. The

immersive experience of traveling to a concert hall, leaving other life obligations behind, closing the doors to the hall, which serve to "contain" the experience, the audience is mostly silent, there are very few distractions, and one is generally there to only listen and or perform.

This immersive experience relates to psychophysiological experience and liveness primarily by framing the experience in a particular way. Music psychologists and music therapists use the terms valence and arousal (Hodges 2016, 184) to describe an emotional response to music and the degree to which someone is activated, or responds psychophysiologically to the music. A relatively distraction free environment and engagement with the music, results in a heightened valence and arousal. And the togetherness of audience members while in the same place, embodying a similar experience, feeds into the immediate connectivity aspects of liveness. This immediate connectivity is only tangentially related to the immersiveness of the experience, but is rather more directly related to proximity.

**Proximity**

For this discussion, I will define three types of proximity: the proximity between individual performers, the proximity between individual audience members, and the proximity between performers and audience members. As it relates to performers, minimal proximity is a key component in the creation of music. One of the most important abilities of a performer as part of an ensemble is listening to the rest of the ensemble as they play a separate part. Listening not only allows performers to play together, but also to effectively convey the associative qualities of the music: mood, emotion, programmatic elements, and other similar qualities (Clayton 2016, 51-53). The level of neurological activity of performers during a performance is

remarkable. The psychophysiological responses a performer has in response to what the rest of the ensemble is playing is a key factor in the creation of a convincing performance. Close proximity facilitates a performer's ability to do just that. If they are rendered unable to do this, presumably, the performance will suffer.

As it relates to audience members, the external physical responses they have while listening to the performance are what is observable by other audience members, and fosters an interpersonal sense of being together, in time. These responses often result in the development of social bonds, shared mood or emotional state, shared identity, and so forth. These are the fundamental aspects of a shared, social experience, which is, as I am claiming, one of the most important aspects of "liveness".

Close proximity between the audience and performers is similar to the effect between audience members, but with the additional element of the performers ability to respond musically to the perceived response by the audience. This is not always an aspect of musical performance, but is specific to instances where the ensemble is able to see and respond to the audience's response. Examples of this are often seen in jazz performances, where improvisation allows performers to respond, in real time, to the audience's response and curate their performance in such a way as to create a high level of valence and arousal in the audience.

Close proximity can easily be seen in features of the traditional performance practice. Structural elements such as the stage, the shape of the room, acoustics of the space; all of these features are designed in such a way so that close proximity is maintained. The problems that arise relating to proximity when moving towards a remote practice are numerous. In most cases, proximity is minimal or even entirely absent. Creating, transmitting, and receiving a compelling

performance becomes exceptionally difficult, and the social aspects of liveness are greatly reduced or eliminated. Overcoming these challenges require a great level of creativity and ingenuity as we move forward with a remote practice.

### The stage

The stage is another ubiquitous component of the traditional performance practice. The stage provides a focal point for audience members and, for better or worse, delineates where the audience ends and performers begin. The stage helps direct the audience's focus forward and is also designed so that the sound is directed outwards, toward the audience. Stages often have lights that keep our visual attention on the stage and away from others in the audience. The visual elements of the stage are important and shape the way that we *hear* a performance. As is central to Seth Kim-Cohen's book, *In the Blink of an Ear* (2014), we have no ability to block out sound, as we do with other senses such as vision. Our ears take the entirety of the sound that strikes our eardrums, evaluates it based on what it deems important, and that gets fed up into consciousness.

We use our other senses, primarily vision, to focus on specific sounds. When we direct our listening attention towards something, we more often than not direct our vision towards the sound source. Once our vision is directed, the other senses typically follow. In a performance setting, we can use our eyes to direct our listening focus. For example, if we wish to listen more intently to the tenor voice that is being provided by the horns, we can look at the horn section, and this will help us focus on their line. The stage, as a visual focal point in the hall, facilitates our ability to do just that. Furthermore, activity on a stage cues the audience and performers as to

when we need to shift our focus towards listening, rather than socializing. Curtains, dimmed lights, and performer poise cues the audiences as to when a performance is about to begin. Cues of this sort help the audience prepare for listening. Maintaining a honed focus cultivates a higher level of valence and arousal in the audience and performers alike; the stage itself greatly contributes to this.

**Acoustics**

Both the stage and the performance space are designed to enhance our experience of the sounds produced by the performers. Stages project the sound into the hall, the size, shape, and materials used in the hall create a unique acoustic experience for the audience, which varies depending on where one is in the hall. The quality of the sound contributes to the valence and arousal of audience members as well as contributes to a performers' ability to hear fellow performers. The value of "fidelity" for both performers and audience members is readily seen in terms of psychophysiological response to sound in both music making and reception, for none of this can occur without truly being able to hear. The ability to clearly hear the sound is only related to the social aspects of liveness through the physical responses of those involved as a result of increased valence and arousal. Performance halls are specifically designed for acoustic performances and the components of the traditional performance practice utilizes these spaces to great extent. The impact of this is additionally found in terms of liveness, whereas each seat in a performance hall "hears" a performance differently. This is both an acoustic phenomenon and a perceptual one. Acoustic, in that never does the sound waves emitted from instruments bounce off of the performance space and combine in the same way in any two places in the concert hall.

Perceptual in that our view of the stage, the gestures of the performers, ect. dramatically shape our perception of the performance itself in a number of psychophysiological ways.

## Cultural Value

The idea of cultural value was mentioned above in terms of rhetoric. While my focus has been on the social aspects of liveness, I believe that cultural value is an important component to examine when discussing the move to a remote performance practice. Because the mode of consumption, and associated "cost", of a traditional performance is substantially different than that of a remote performance. With any form of performance practice, there is an associated cost in terms of time and money expenditures.

Our society values music to the degree that individual and cultural arts organizations, as well as public funds, are extensively distributed to performance ensembles and individuals so that they can continue to perform publicly, and individuals will travel to and pay money to go to these performances. Indeed, the fact that most ensembles cannot survive only with the money they make from ticket sales suggests that there is an agreed upon cultural value to live performance and traditional performance practice continues to exist because of this value.

Performance halls are built, arts organizations put a substantial amount of resources into maintaining performance ensembles and concert halls, individuals pay a relatively high dollar to attend performances. The fact that we are able to go to a concert hall at all to see a live performance is due, in part, to the value that our culture has placed on such things. Now that we are unable to attend concerts, the viable future of such ensembles and performance venues is in questions.

## II. Towards a Remote Performance Practice

As we are now forced to move away from the traditional performance practice, a vast number of challenges present themselves. These challenges are not just specific to performers and audiences, but also for music scholars and critics. Perhaps the most significant challenges artists face are maintaining cultural relevance, remaining adaptable in the ever changing landscape of performance practice, and utilizing and developing technology that allows us to express our individual artistic intent. Given the current state of our digital culture, maintaining cultural relevance is perhaps the most significant of the aforementioned challenges. There exists a vast amount of entertainment accessible at any given moment via the internet and streaming services: competing with the content from these very well established enterprises is an enormous hurdle we must overcome in addition to developing a compelling remote performance practice.

For audiences and performers alike, crafting an experiences that is both psychophysiologically and socially fulfilling is a significant challenge. As for audiences, there is the added difficulty in seeking out and finding performances that are both engaging and also in line with our musical preferences, especially for those that prefer niche performances that were already difficult to present in the traditional performance practice.

As artists develop a remote performance practice, it is important to address each aspect of performance and listening and address how it affects participants both psychophysiologically and socially. Given the challenges inherent with the rapid shift from a predominantly traditional performance practice to a remote performance practice, I would like to now take a look at the key components discussed above and attempt to “translate” them into a possible remote performance practice. The goal here would be for all participants to have as compelling an

experience, or greater, than is possible within a traditional performance practice. It is important to note two things at the outset. First, no two pieces are alike, and considerations for the primary aesthetic intent of the individual work must be addressed in each performance, be that in a traditional performance practice or a remote one. Second, I do not seek to come up with any definite solutions to the problems I mentioned above, but merely pose some potential solutions as a model for further critical inquiry.

## The Key elements in a remote performance practice

### Immersive Experience

By bringing both performers and audiences into the same space, the traditional performance practice creates an immersive experience for all participants at the same time. Performance spaces incorporate stages, lights, curtains, and so forth, to create “immersiveness” for all who are present. With a remote performance practice, we are now invariably tasked with creating two or more separate immersive experiences; one for the performers and another for the audience. For the performers, a number of safe and effective solutions are possible. Audio over ethernet solutions like the Dante (Audinate 2020) audio system operate with imperceptible delay over local area networks. As long as performers are in close enough proximity to be on the same local area network, miking each performer and given them a generalized “mix” through an earpiece would allow for each performer to listen to the ensemble as they play in a similar way to how they do while in the same room, perhaps with even better effect since a particular location on stage would no longer play a role in terms of who else an individual performers could hear within their ensemble.

For audience members, creating this experience is a more difficult task, since the mediated process only allows for control over the content that reaches the screen, and very little control over where the audience is and what platform the content itself comes through. A dedicated website for the live streaming of performances would allow for the reduction of visual clutter that is intentionally present on sites like YouTube and Facebook Live. Additionally, it could reclaim some cultural value; that is, place content such as live performances separate from all the other videos on Google's servers. Though, presenting a work on YouTube could become an asset if it was a core component of the work itself.

A dedicated website, on the other hand, could utilize "performance codes" or direct urls in order for audiences to access specific content, so that no advertisements, for the performances or otherwise, would appear on the site. If performance codes were used, organizations would be given a code by the platform that they could then distribute to their listener base. Concert attendees would then be able to type that code into the website and the livestream would appear.

Performers and performance spaces could also utilize the mediation itself—the media that is used to broadcast the performance, be that video/audio, video only, or audio only, etc.—to create a virtual experience of arriving at the performance space. For example, if a performance included video and audio, a short video clip of arriving at the hall, retrieving a ticket, and navigating to one's seat could be played at the beginning of the concert to give audiences a feeling of departure and arrival. The standard pre-concert announcement where audience members are reminded to turn off their cell phones could be adapted for remote performances to include leaving the phone in the other room, decluttering the "performance space and stage" and mentally preparing for the show. And, or course, the apex of virtualization for the experience

would be the use of virtual and augmented reality streams so that audiences could use AR/VR technology to view the performance.

Any one of these, or combinations thereof, could be used to reintroduce audiences to the immersive experience they are used to. The goal would be to encourage audiences to create an immersive experience for themselves, since this is, to a large degree, in their hands. One positive aspect of this responsibility is that individuals can craft their own "concert space"; making it exactly to their liking. This is not an option in the traditional performance practice, where the audience's only control over the environment for a performance is picking which concert to go to.

**Proximity**

Creating virtual proximity in a remote performance practice is perhaps one of the most difficult tasks out of the five discussed here, as this is the most substantial limitation we now face. Our brains are remarkably attuned to non verbal communication, and thus able to readily perceive the social aspects of liveness while in close proximity to others. However, proximity is no longer an option and creating a remote performance practice where audiences are able to respond to the music and each other together is quite a challenging prospect.

The solution described above for immersiveness for performers offers a remedy for listening, but not for looking. Transparent partitions that put performers in the same room, but within "safety pods" would be one way of allowing for visual communication between performers. Another way would be to provide video feeds of the conductor, concert master, and first chairs of each section for eache performer. This perhaps would even be better than the

traditional stage layout; providing each performer with better visual access to these figures. What becomes difficult, if the performers are in separate rooms, is the conductor communicating directly with specific sections in an orchestra or large ensemble. One possible solution would be for the conductor to have multiple video cameras in their space, one for each section. These cameras could be configured in the same way that the ensemble typically is, thus, when the conductor looks and gestures in the direction of the section, it would appear, on the performers' video feeds, as if the conductor was looking and gesturing directly at them.

For audience members, small groups of individual meetings within the safety guidelines of their local could still "attend" a concert together, in the safety of their own space. Thus, the physical cues they would missing from that of a traditional performance would be those of the extended audience. One potential, and somewhat comical, solution would be for attendees to setup their webcams behind their heads. A virtual seating chart would situate random audience members next to others. Then the video feed of these people could be positioned on screen as if they were sitting behind and next to these people. Whether or not people would actually want to do this is questionable, but could supplant the virtual experiences and generate a heightened social experience. Another, perhaps more appealing option would be to post emojis to a chat box.

While this is available on platforms like YouTube and Facebook Live and Zoom, the attention grabbing nature of comments that flash up on your screen perhaps causes distractions more than the desired, shared experience. If a dedicated website were to emerge, as is suggested above, a more elegant solution of this feature could be developed. For example, a collection of icons along the bottom of the screen that represent various emotions and experiences. When you experience something similar to one of the icons in response to the music, you could click on the

icon, and, for a short amount of time, that click could count towards the total number of audience members experiencing that emotion at that particular moment. As the number of audience members experience that emotion, the icon could increase in size or change in color. In that way, audience members could get a sense for how many people are experiencing each emotion in that moment of music. The display of this emotional gauge, however, would always be present and something that audiences could direct their attention towards, not something that interupts one's attention by popping up on screen.

### Stage

The discussion on stage follows that of the immersive experience closely. In a similar way, the traditional performance practice allows for one stage to serve two functions: focus and acoustics for the audience and a place of co-creation for performers. The discussion on Proximity above provides a number of viable solutions for the purpose of a stage, in terms of its performative nature. As it relates to audiences, however, it is a formidable task, for there is very little control performance ensembles or arts organizations have in terms of where and how audiences choose to view a live streamed performance.

One possible solution would be to reinvent the stage "as" the screen as opposed to streaming an image of a physical stage "to" the screen. For example, abstract representations of the ensemble and sound that the ensemble is making could be interacted with by audience members in order to control some aspect of the sound: mix, balance, reverb, or even other audio processing effects.

Another option would be to treat each individual screen as a control room, rather than a

seat in the audience. That is, numerous live feeds, each with a different angle and focus on the stage, could be available and individuals could select them while they listen. Or an interface where there would be one, high definition, video feed of the performance, but users could zoom and pan to different parts of the stage. In that way, if one wanted to focus more on a particular section of the ensemble, they could utilize their visual sensory input to assist with that by focusing their view on a section of the ensemble.

**Acoustics**

In terms of acoustic, again, performers and institutions are only able to control the recording and broadcasting side of things: audiences using substandard commercial audio devices like headphones and speakers through their phones is something that is outside of their control. The interface, however, is.

Performers need access to high quality audio feeds from other performers in order to effectively perform. As mentioned above, the psychophysiological effects performers experience while listening to the rest of the ensemble play a significant role in their ability to co-create a compelling performance. High quality, compact, microphones are available, but expenses become an issue with a large ensemble. Though, because of this, there is an opportunity for digitally synthesized sounds to gain prominence in a remote performance practice. Ensembles like "laptop orchestras" start with digital audio signal and thus the highest fidelity audio signals can be broadcast directly from the instruments. Computers can also serve duel duty in that they can both create and transmit audio signal.

Despite the source, high quality audio can be broadcast, but doing this might require

dedicated web platforms which default to this behavior. Sites like YouTube and Facebook Live give bandwidth preference for the visual feed, not the audio, simply because audio is always paired with video and video takes up more more data. On the performance side of things, high quality equipment can be used to make sure that the best quality sound is broadcast. Quality microphones and analog to digital conversion is a must. Again, expenses are a factor here and can quickly become a limitation. Creative ways of circumventing this is a must and can be addressed on a per piece basis.

The variability of acoustics at any particular seat in a concert hall is also quite difficult to replicate. Customizable audio effects, such as reverb, could be placed on the back-end of any web based performance platform and algorithms that adjust these parameters based on when viewers load the web page could create a similar effect, Though, this is of very little meaning to audiences when there is nothing to compare it too. It is less about a unique position in the hall as it is about it being a particular position in the hall, one's seat. Other creative solutions for this can be pursued.

**Cultural Value**

Cultural value is perhaps the most abstract concern listed here, and is thus markedly more difficult to address. I see two main concerns that need artists' attention: content distribution and content access. In terms of content distribution, there exists the possibility of content devaluation of performances when distributed alongside all of the content hosted by sites such as YouTube.

Much of the content on these sites is created to grab attention and be consumed in rapid succession. If that is indeed the culture of these sites, will performances, regardless of content

type, be treated similarly when accessed through those sites? More than once I have mentioned the need for direct access to performances, through a dedicated web platform, that has an interface conducive to musical performances. Even with such a platform, however, there is still a distinction between traditional and remote performance practices in terms of content access.

In a traditional performance practice, attending a concert requires a certain amount of intent, for both performers and audience members. In a remote performance practice, the performers still require the same amount of practice and preparation for the concert. For the audience, however, attending a concert can be done on a whim by simply grabbing one's phone and clicking on a link. And while widespread access to this content is certainly a positive in many regards, the ease by which one can "arrive" at a concert is equal to the ease by which they can "leave". Furthermore, the ease by which one can arrive also can be a source for immersive experience issues as described in the "key elements of the traditional performance practice" section. Audiences are able to attend a concert from anywhere and thus suffer from a deluge of distractions, potentially minimizing the impact of the performance on their experience.

Solutions such as sanitary listening stations are an option, but prevent large scale access. interfaces that encourage distraction free environments (such as those described in the Immersive Experience section above) are more viable options. Interactive interfaces, especially those that allow for audience members to engage each other prior to the performance could be one way to encourage audience members to more fully engage the performance.

## Unique Opportunities Within a Remote Performance Practice

A number of unique opportunities arise in a remote performance practice that do not originate in the traditional performance practice. These include, but are not limited to, exploring liveness itself as an aesthetic, utilizing the encoding and decoding of audio for transmission to audiences as a means of generating audio, and exploring posthuman concepts of our virtual selves for the performance and presentation of performances.

Liveness, to some degree, has already become an aesthetic goal. Many experiential works are impossible to record, only document, and include this feature as one of their main aims. Richard Beaudoin's (2012) practice of "microtimings" makes use of timing variability of existing performances to create new musical works, which resembles the original performance, but exists as something more akin to the live performance of the analyzed recording, not what is traditionally thought of as the work itself.

Another feature of remote performance practice that has room for exploration is the virtuality of the performance itself. For some, posthumanity involves the perception that material objects are inherently interpenetrated with information and data patterns. This data is conceived of as being separate and separable from its materiality, the assumption being that this information could thus move between physical instantiations without changing in the process (Hayles 1999, 13). I believe that intentionally altering information in this process holds a plethora of opportunities for aesthetic and creative exploration that illustrates how materiality on a screen or through headphones is indeed different than the original, physical object.

I am reminded of Alvin Lucier's *I'm Sitting in a Room* and, more particularly, the YouTube video version *I'm Sitting in a Video Room* (ontologist 2010), where the effect of digital

codecs used at upload and download are illustrated by repeating the upload and download of the same video, over and over again, such that the original video and the video after one-thousand uploads is almost unrecognizable.

Posthumanity can be explored in a number of other ways through a remote performance practice. For example, artist and audience virtual selves could be explored as an aesthetic. All that we do online and put online becomes part of how we understand ourselves and also how others understand us. This is increasingly becoming a part of who we are as humans. Works in the remote performance practice are especially susceptible to the intentional creation and modification of our virtual selves. Altering the perception an audience has on the artist, and subsequently a piece of music, would be quite effecting in a remote performance practice, where the virtual self of the composer and performers could potentially make up a larger portion of audience perception than the material self ever could. Entirely virtual performances, such as those on platforms like second life, are examples of this.

Aspects of liveness can also be explored and challenged. For example, in terms of co-creation, what are the bounds of real time? That is, when does something being created by artists exist outside of real time? Did the Postal Service's first album, which was created by sending multi track audio recording back and forth through the mail between performers happen in or out of real time. Until the album was completed, each track was created in real time for each individual performer, but the creation was not concurrent. Intentionally pushing the boundaries of what is considered real time could prove fertile ground within a remote performance practice, where doing so could be considerably limiting within a traditional performance practice.

## Unique Opportunities Entirely "Off the Stage"

Beyond traditional and remote performance practices, there are innumerable varieties of ways one could present works in compliance with regulations relating to the pandemic. Sound installations provide the opportunity for audiences to engage a work at no particular time, though would still experience the "performance" of the work with a variety of psychophysiological responses possible and with a degree of liveness as it relates to real time. These installations could be outside or indoors with touchless entry and proper ventilation.

Performances could also take advantage of social distancing in such a way that the experience of the piece is only possible while audiences remain socially distanced. In a 2016 work by composer Brian House titled *Oh Dear Me,* two computers were setup, on opposite sides of a historic part of Dundee, Scotland. These computers translate messages typed by users into musical notes that are then played, sequentially, by performers that are standing on street corners, woven throughout the district, between the two computers. Once the last performer standing by the computer plays the sequence of notes, the computer user then selects the notes that were heard and this is then translated back into text. That user can then type a response, which is again translated into musical notation, and then transmitted via the performers to the other computer user. The presentation of this piece utilizes socially distanced performers, not because it has to, but rather at the service of the translation and transmission of information via audio, which is central to the work itself.

Innovative performances of this sort are perfect for times like this, when traditional performance practices are out of the question and digital stages have yet to emerge in a compelling way. Works that occupy spaces not typically thought of for performance offer new

opportunities for creativity and social relevance.

## III. Conclusion

A move towards digital distribution of the live has been underway for quite some time and compelling works exist within that medium. With this current thrust into a fully remote environment, artists are forced to work within an unfamiliar frame of reference. A conscious effort to adapt and continue to create and perform is necessary in order to create compelling works for both musicians and audiences. A move from that of the traditional performance practice to a remote performance practice done with little effort or care not only fails to reach audiences with the same impact it has when a work is heard in person, but also fails to realize the potential wealth of creativity that can be tapped into through an intentionally devised remote performance practice.

The traditional performance practice, as I have defined it, has evolved into its current state over the course of many hundreds of years, if not more. A remote practice that caters to the nature of musical creation and reception simply cannot be invented overnight, but rather will emerge as a functional practice as musicians and institutions experiment within the practice and receive feedback from audience and performers alike. Though, as I said, I believe that this is an opportunity that artists can seize in order to create works that are even more aligned with their artistic intent and reach audiences in even more compelling ways.

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