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**Ghosts in the Machine: A Virtual Choral Performance  
as Hauntological Praxis During the COVID-19 Pandemic**

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## **GHOSTS IN THE MACHINE: A VIRTUAL CHORAL PERFORMANCE AS HAUNTOLOGICAL PRAXIS DURING THE COVID-19 PANDEMIC**

**Abstract:** An interwoven reading of the issues surrounding a performance – rehearsed and recorded remotely and hosted virtually – of Sxip Shirey and Coco Karol’s *The Gauntlet: Far Away, Together*, for 15 voices and electronics (given at New York University Abu Dhabi in March 2021, in which I was choral director), and Jacques Derrida’s *Specters of Marx* (1993/2006). I examine the impact that COVID-19 had on realising this performance – which had originally been intended for a ‘live’ and fully immersive and interactive presentation – and consider how earlier models of hauntological praxis in works by Karlheinz Stockhausen have parallels with performing during the pandemic. I explore the ways in which working in isolation, with little sense of time or location, foster a sense of ‘aporia’ or perplexity, overturning the binary opposition of time and space, and how the use of the SPAT immersive audio mixing tool to electronically process single voices into multiple, spatially realised echoes (ghosts) of themselves, truly gives us ‘ghosts’ in the machine.

**Keywords:** Derrida, Hauntology, Shirey, Stockhausen, Virtual, SPAT, COVID-19, Ghost.

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## Hauntology

According to Jacques Derrida:

...a ghost never dies, it remains always to come and to come-back (Derrida 1993/2006, 123).

Derrida first used the term hauntology in *Specters of Marx* (2006), where he derives it during an analysis of the historical ‘conjunction’ against Marxism. Showing remarkable prescience in light of the ways artistic practice has had to adapt during the COVID pandemic, Derrida attaches his neologism to ‘the medium of the media’ stating

...this frontier between the public and the private is constantly being displaced, remaining less assured than ever...because the medium in which it is instituted, namely, the medium of the media themselves (news, the press, telecommunications, techno-tele-discursivity, techno-tele-iconicity...) this element itself is neither living nor dead, present nor absent: it spectralizes. It does not belong to ontology...or to the essence of life or death. It requires, then...*hauntology*. We will take this category to be irreducible, and first of all to everything it makes possible: ontology, theology, positive or negative onto-theology (Derrida 2006, 63).

Thus, Derrida attaches ‘hauntology’ here to a discussion of the ‘medium of the media,’ especially regarding technology such as online platforms, radio and television, that contract both *time* and *space*.

One of *Specters of Marx’s* recurring tropes is a quotation from Shakespeare’s *Hamlet* – ‘The time is out of joint’<sup>2</sup> – from which Derrida weaves a complex net of linking ideas of political economy, Marx’s legacy, *Marxism’s* legacy, time, space, inheritance, spectres, spirits, and mourning. Hauntology is a construct, the combination of two pre-existing terms. As Derrida says, “a context, always, remains open, thus fallible and insufficient” (Derrida 2006, xvi). Which brings us to hauntology’s other uses and contexts, its evolution; it brings hauntology back into the technological realm, to Derrida’s ‘techno-tele-iconicity,’ through its use by the cultural theorist Mark Fisher (and others), its use in all forms of ‘virtual’ media (TV, radio, pre-recordings made via Zoom, Audacity, Audio Movers and so on, YouTube and other communication and dissemination platforms) and its association with technologically recorded archives, loss and mourning, the *unheimlich*, the ‘other,’ dreams and the haunt of haunting...

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2 William Shakespeare, *Hamlet*, I, v, 188.

## The Gauntlet

But how does hauntology operate in practice, in fact, in *praxis* – in a work originally intended to showcase performer agency through real-time, interactive, improvised realisation – in the virtual domain, when every performer must work in isolation, denied any sense of community or knowledge of an ‘end result’ until the work’s premiere plays out in real time, and when these ‘live’ performers become ‘ghosts’ in the machine, unsettling presence by overturning spatial and temporal binary oppositions? During March 2021 the university was in lockdown, the student performers were located in four different global locations (New York, Shanghai, Abu Dhabi and Poland) and all of the rehearsals and the recording process were conducted remotely, thereby placing considerable challenges on all of the participants. In this iteration of *The Gauntlet* the ‘tele’ of ‘tele-technology’ became of paramount importance.

Prior to this iteration of *The Gauntlet*, performances of the work had all been live, immersive and interactive; the result of a brief, but intense, period of workshop style rehearsals with Sxip Shirey and Coco Karol. Previous performances had already taken place in the US (2016, 2017 & 2018), Norway (2016) and Australia (2018), before the Arts Center at New York University Abu Dhabi planned to present a live performance during 2020 with myself as choral director. However, with the global pandemic, all live performances abruptly ceased, rehearsals were suspended, musicians and other performing artists suddenly found themselves with no place in which to practice their art. The performing arts scene was deserted; an empty space full of the ghosts of cancelled future projects (truly ‘lost futures’ as Fisher would call them), and memories. And yet, from this bleak position emerged the possibility of actually performing and disseminating *The Gauntlet* in a different and new way, retitled *The Gauntlet: Far Away Together*.

Despite advances in tele-technology, which enable a different mode of dissemination for *The Gauntlet: Far Away Together*, we might ask ourselves of the performance in March 2021, was it radically new or just another step in *The Gauntlet’s* hermeneutic performance evolution? Conceptually, are there musical precedents? Are there examples of tele-technology in earlier works? Afterall, a certain evolutionary quality, in that how we understand and use *words* changes according to their contexts, times and users, and allows for a plurality of interpretations, throws questions of origins and centres into doubt. It allows for the permanent suspension of the arrival of a fully stable meaning or use; thus, meaning is *deferred* and our word plays through contexts of difference. We can see a similar process at work in the realisation of Shirey’s work. As most of *The Gauntlet’s* text content is derived from a kinetic interview process<sup>3</sup> held with the

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3 Coco Karol conducted a series of movement interviews with community members to

performers (in some realisations) and wider community (in others), the text will naturally change completely with every performance location, meaning that a ‘fixed’ version of *The Gauntlet* cannot exist; by its very nature, it *must* change dramatically with every new iteration. Variability extends further; to the number of performers; their vocal ranges and individual qualities (for Shirey is explicit in his demand that the choir should be collapsed back into a group of individuals); performance methods (improvisation is a dominant focus in the ‘live’ realisations), locale (strongly affecting the sound quality, for example, inside or out, with a dry or resonant acoustic, and so on) and the musical material – sometimes improvised, sometimes pre-composed, sometimes a combination of the two.<sup>4</sup> *The Gauntlet* is thus already highly mobile and variable in its realisations and the use of tele-technology which dominated the Abu Dhabi version resulted in a fully hauntological iteration to add to this performance taxonomy.

The NYUAD iteration of *The Gauntlet* took the following form:

Prelude

Movement 1	<i>I am the Foreigner</i>
Movement 2 part 1	<i>The Whisper Storm</i>
Movement 2 part 2	<i>Can You See Me?</i>
Movement 2 part 3	<i>I Forget, but what I Remember is...</i>
Movement 3	<i>Insan/Nasiya</i> <sup>5</sup>
Movement 4	<i>Sand Dunes</i>
Movement 4 part 1	<i>Speech</i>
Movement 4 part 2	<i>Folk Song</i>

Although more than one semester had already been held in a remote instruction format, there were still challenges for the student performers, as well as for the choral director (myself), composer (Shirey, who ‘virtually’ sat in on all of the rehearsals) and technical support, as can be seen in the following post-performance reflections:

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generate personal texts. Each participant was asked to move in certain ways, and then asked to describe feelings and memories associated with past events to the interviewer. These recollections were then edited into the eventual libretto for *The Gauntlet*.

4 For the NYUAD realisation Shirey frequently asked the singers to improvise within the rehearsal and recording sessions. He also composed fragments and adapted them to suit the particular qualities of individual singers or sections of the ensemble.

5 ‘Insan’ means human in Arabic and comes from the Arabic word to forget ‘nasiya’.

On the one hand, it was an exhilarating experience to be a part of such multi-continental endeavor amid the chaos and unrest we all faced each day. On the other, however, with the whole mammoth task of recording and production taking place during the COVID-19 pandemic, our vocal ensemble was, sadly, scattered all around the globe and there was only so much that our professor could do to provide a sense of unity through Zoom (which as a piece of software technology was at times capricious) (Performer 1).<sup>6</sup>

Given that the pandemic had robbed us of in person rehearsals, the process was made doubly difficult. Working via Zoom and encountering Zoom lag and Zoom fatigue was a real challenge for rehearsals. This was certainly augmented as the piece had alterations made during rehearsals to suit our voices...The recording process was quite isolating and unexpected. While I had had experience in the natural acoustic in the Blue Hall, the recording made no use of it. We had a small setup where we were supposed to sing directly into a single microphone one member at a time (Performer 2).<sup>7</sup>

The process of working on a choir piece online was quite difficult at first. Being used to being part of an in-person choir, rehearsing together with all sections, I missed the sense of belonging to a greater community. I missed hearing the harmony of all the other sections. At the same time, I also appreciated singing alone, without being distracted by what other sections would sing. There were also several other technical issues such as the sound delay over Zoom and Zoom freeze that could be quite frustrating at times, even as we were rehearsing individually (Performer 3).<sup>8</sup>

## Derrida

Derrida gives two definitions of hauntology in *Specters of Marx*. The first (cited earlier) deals with notions of space, time and the undecidable medium that hauntology appears to inhabit, that is something that “itself is neither living nor dead, present nor absent: it spectralizes. It does not belong to ontology...or to the essence of life or death” (Derrida 2006, 63). So, hauntology appears to resist conceptual order, it is undecidable – like the *pharmakon* of *Plato’s Pharmacy* (Derrida 2004, 75)<sup>9</sup> Derrida’s second definition of hauntology takes this line of reasoning further:

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6 Email communication 10.9.2021.

7 Email communication 12.9.2021.

8 Email communication 12.9.2021.

9 It seems doubly appropriate that ‘Plato’s Pharmacy’ occurs in the volume titled *Dissemination* (1981).

To haunt does not mean to be present, and it is necessary to introduce haunting into the very construction of a concept. Of every concept, beginning with the concepts of being and time. That is what we would be calling here a hauntology. Ontology opposes it only in a movement of exorcism. Ontology is a conjuration (Derrida 2006, 63).

As Derrida says, haunting is present in ‘the construction of a concept.’ Haunting is present in hauntology, and time’s being ‘out of joint’ is a theme that is woven into the fabric of much of Derrida’s work (not just *Specters of Marx*).<sup>10</sup> As Derrida suggests, if we do not need to be present to haunt, then *The Gauntlet: Far Away Together* can claim to be a hauntological performance not only in its means of dissemination (WP online, 31<sup>st</sup> March 2021), but also in its means of rehearsal in multiple time zones (via Zoom), its means of recording in multiple physical locations, as singers found themselves literally ‘stranded’ across the globe (Abu Dhabi, New York, Poland, Shanghai), its use of recording technology (audio movers and audacity), the problems of latency and delay inherent in these forms of communication, all of which emphasise the overturning of the space/time opposition, and lastly, the use of the digital audio immersive technology SPAT, the ultimate digital audio spatialisation tool for adding audio ‘ghosts’ into the final mix and providing an immersive sound experience for the audience.

## Stockhausen

A little earlier, I posed the question ‘are there musical precedents?’ and it is this question that allows me to contextualise *The Gauntlet: Far Away Together* by bringing in some much earlier instances (among many possible examples)<sup>11</sup> of hauntological praxis using tele-technology in the works of Karlheinz Stockhausen from the 1960s and 1970s.

The 1960s and early 1970s form a threshold within Stockhausen’s oeuvre. These works sit between the hyper-serialism of his Darmstadt years and the later, grand musico-theatrical projects of *Licht* (1977–2003) and (the incomplete) *Klang* (2004–2007).<sup>12</sup> It’s a period where Stockhausen explores various types of non-standard and hybrid notation, extending the scope of the graphics first utilised in scores such as 1954’s *Elektronische Studie II* and 1959’s *Zyklus*, and also sees the creation of two sets of text scores (‘intuitive’ music), the exploration of indeterminacy and processes of interpretative relativism, ritual performance and physical space, and further researches into electronics, vibrations, and ra-

10 *Archive Fever* (1998), *The Work of Mourning* (2003) and *Cinders* (2014) all deal with this issue in one way or another.

11 Of course, Cage and Berio immediately spring to mind as alternatives.

12 Stockhausen had completed 21 of the projected 24 hours prior to his death.

dio, in other words, signals. Signals as a means of communication, as musical messages in the virtual, material correspondences, codes, remnants of the living, broken fragments, crackle, static, audio hallucinations, voices of the lost, voices of the dead, ghosts perhaps?

As a prior form of hauntological performance, the inclusion of radio was significant, forming an intrinsic part of a constellation of works written during this period, including *Pole* (1969), *Spiral* and *Expo* (1970), *Kurzwellen* (1968), *Tunnel Spiral* (1969), *Musik für ein Haus* (1968) and *Ensemble* (1967) to name but a few. Radio's problematisation of the space/time opposition and its reliance on, and production of, virtual archives make it an apt area for comparison with modern digital equivalents. It *haunts* without being present.

A question arises: how does radio function conceptually? It unsettles presence by overturning the binary oppositions of space and time. The supposedly 'live' radio event is never totally live – radio brings forth the voices of the dead and the distant as though they were still living and present; the signal can always be broken or transformed, or even hijacked, it can be overlaid with, or dissolve into, the non-place and non-time of static; it operates in multiple loci simultaneously – the places of original recording, broadcast or dissemination, and reception. We could ask whether static is a place of mourning for the signal that is lost, or is it a place of waiting for the signal (as event) that is to come, or is it a graveside, a threshold even, where we wait for the return of the ghost, or is static the ghost itself, the ghost in the machine? Maybe it is static's quality of absence that makes it so alluring sonically, functioning as a kind of negative temporary autonomous zone which "erupts into empirical reality" (Fisher 2016, 122) plunging the listener into a sense of aporia. But sonically, we don't *need* to understand the 'whole',<sup>13</sup> we can make our own alternate version and the *event* does not arrive, because it is no longer the *same* event. The process of dispatching has instigated a change.

There are direct parallels with the virtual rehearsal and performance landscape of *The Gauntlet: Far Away Together* of course. The place of rehearsal and recording are far distant physically, operating in different time zones, subject to varied modes of distortion. Zoom's inherent delays and latency mean that the 'now' for each participant is too, always different, and the distortions that saturate working in this way are philosophically analogous to static. Has the voice died, or is something different emerging from this warped and stretched sonic environment? And which is the ghost? The 'real' voice, if indeed it is 'real' in any sense, or the distorted voice? Perhaps they are actually the same and different – undecidable. The act of dissemination has again, instituted a change. Although the performer is 'live,' the delay means that what we hear is a 'dead' (ghostly) voice.

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13 Which applies equally to the use of quotation.

Thus, Zoom is a means of disseminating the archive which, in its performative sense, it shapes. Because none of the singers can hear each other, the sense of community encountered in most choral endeavours is gone.<sup>14</sup> Each singer is isolated, in musical (as well as COVID) lockdown, with only the conductor's, composer's (and sound engineer's) voices present; roles that, in normal circumstances, would mostly be silent after the rehearsal process has been completed. Performatively, this is a 'lost future.' During COVID, virtual platforms such as Zoom became hosts to our education, community, and artistic endeavours, resulting in a plurality of undecidable, shifting identities, where nothing is fixed, where one can embrace hauntology as a medium out of time, a medium of transformation, where presence is not assured, but is perhaps closer to what Derrida calls "a spectral moment, and a moment that no longer belongs to time, if one understands by this word the linking of modalized presents (past present, actual present: 'now', future present)" (Derrida 2006, xix).

## Fisher

Conjecture: hauntology has an intrinsically sonic dimension (Fisher 2014, 120).

Mark Fisher developed aspects of Derridean hauntology much further in *Ghosts of My Life: Writings on Depression, Hauntology and Lost Futures* (2014), giving hauntology a parallel, and supplemental, interpretation in a new context. In a sense, hauntology itself has come back to haunt us – it is a revenant, crossing between texts and media, shaping content through context,<sup>15</sup> and entering the virtual in the realms of music, electronic communication, film and video. As is written in the 1848 Communist manifesto: "a spectre is haunting Europe – the spectre of Communism" (Marx 1978, 67); but, as Derrida comments, communism had not even happened when Marx and Engels wrote the manifesto, thus the spectre can apparently haunt *from* the future, as well as embody the memories of past events or people and the apprehension of their *return*. Thus, Derrida says, "What does it mean to follow a ghost? And what if this came down to being followed by it...persecuted perhaps by the very chase we are leading? ... what seems to be out front, the future, comes back in advance: from the past, from the back." (Derrida 2006, 10).

Developing this strand from *Specters of Marx*, Fisher presents hauntology first as pertaining to both the remnants of the past, often physical, and to a yearn-

14 As can be seen in the choral reflections included earlier.

15 What Derrida describes as "...a performative interpretation, that is, of an interpretation that transforms the very thing it interprets..." (Derrida 2006, 63)

ing for ‘lost futures’; so, for Fisher, hauntology is “...that which is (in actuality) *no longer*, but which *remains* effective as a virtuality (the traumatic ‘compulsion to repeat’). The second sense of hauntology refers to that which (in actuality) has *not yet* happened, but is *already* effective in the virtual (an attractor, an anticipation shaping current behaviour)” (Fisher 2014, 19). Fisher goes on to consider the importance of hauntology as “materialised memory,” (ibid, 21) emphasising the tactile, material, dimension of specifically analogue media, their use in music and their degradation and breakdown, further accentuating the revenant’s ability to conjure up not only memories of ‘things,’ but also memories of things that never were, an insatiable and melancholy longing for what *did not* come to pass – what Derrida calls the “heirs...of a promise” (Derrida 2004, 113). Thus, radio static is not only representative of decaying, past (and tactile) media, but through the inherent imperfections present, it also foregrounds the *medium* itself, all the while opening new sonic avenues where ‘loss’ is the driving force of creation.<sup>16</sup> As Derrida remarks “...like all inheritors, we are in mourning,” (Derrida 2006, 67) ...even when all we inherit is a ‘lost’ future. And despite the entirely virtual setting of the NYUAD performance (and rehearsal period), we can see exactly the same problematisations at work in *The Gauntlet: Far Away Together*. Latency foregrounds the medium itself – and just because that medium is digital, this effect is not any less marked. In fact, it is sonically and psychologically exactly like straining to hear someone on a phone that is breaking up, or experiencing voices suddenly blurt into an unrelated conversation creating a sense of aporia. Not only can the performers not hear each other, but the information stream from the director and composer are frequently distorted also, having to be repeated, sometimes numerous times. As with radio, distant events are brought physically (aurally) into the performance space and their distortion further emphasises not only the quality of the sounds themselves, but also the ‘when’ of these sounds. During rehearsal and recording, each singer, as a singular sound entity, is present simultaneously in more than one place and time; the place and time of recording, of dissemination and reception (via Zoom), and of processing and curating prior to the final, yet endlessly repeatable, dissemination of the completed work. As both performers and listeners, we are subject to processes of disruption; the signal is a transformed ghost, carried across vast distances. As Derrida says: “But also at stake, indissociably, is the differential deployment of *tekhne*, of techno-science or tele-technology. It obliges us more than ever to think the virtualization of space and time...” (Derrida 2006, 212) so theoretical knowledge is put into the service of a performative, yet virtual, realisation of the past and its relation to the present as well as to the ‘futures’ to come and those which are always, already, lost.

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16      Also referencing sonic arts’ standard usage of hauntology as ‘crackle’.

## Dissemination

I abandon this reading to you: polysemia or even dissemination drags it far from any shore [rive], preventing what you call an event from ever arriving [s'arriver]. Let the net float, the infinitely tortuous play of knots and links which catches this sentence in its drawing (Derrida 1987, 159).

The concept of a signal or sound event that can be carried is pertinent to both the live and digital versions of *The Gauntlet* and also has precedents in earlier works. In a live performance of *The Gauntlet*, sound motifs are passed from singer to singer in real time, physically (with cupped hands) and aurally. The virtual COVID manifestation creates exactly the same impression through the use of SPAT, where ghost voices echo and circulate around a central axis; moving the sound 'signals' around the listener. See Figure 1.



Figure 1. In this image the voice labelled 'Yas' has five spatial 'ghosts' generated from the original.

The result of a partnership between IRCAM and FLUX::Engineering, SPAT is an immersive audio system which gives the user a considerable amount of control over the spatialization of the audio mix. Audio signals can be placed virtually, creating both volume and depth in the mix, while also creating real time reverberations within any given sonic space, for example a sphere, a dome or a corridor.

In *The Gauntlet*, the signal can now be 'carried' through time and space as in live performative realisations, but this kinetic process can now be designed and

delivered virtually instead of physically. It's also important to consider whether these carried sound motifs, or signals, actually arrive as when they left their point of departure, indeed, do they ever arrive? In Stockhausen's *Musik für ein Haus*, *Fresco* (both 1969), *Sternklang* (1971) and *Alphabet für Liège* (1972), signals and communications have to physically (as well as electronically) move through space. By requiring that the signal be physically carried from one point to another, rather than being shared between musicians in a fixed performance space, Stockhausen opens up a new labyrinth of feeding back; the net is allowed to float... The journey (as transfiguration) is as important as the destination, and the event (as Derrida describes it) does not arrive, because it is no longer the same event, the process of dispatching has instigated a change. In a digital curation, we can see parallel processes. The recording process itself alters the live sounds; the compression inherent in the digital transfer is again transformative and the addition of SPAT's 'ghost' voices with SPAT adds yet another layer of alteration, and consequently a permanent delay to the arrival of the 'original' sound motif. For the hauntological praxis under discussion here, the key phrase in the Derrida quotation which opens this section is "preventing what you call an event from ever arriving [*s'arriver*]. Let the net float..." Dissemination allows for the endless deferral of the arrival of an event that does not exist in one ordinary form, but through its ghostly 'doubles' the event is connected across both time and space.

Stockhausen reflects on the same area of spatial problematisation in *Gruppen* for three orchestras (1955–57): "...a chord is moving from orchestra to orchestra with almost exactly the same instruments (horns and trombones) and what changes isn't the pitches but rather the sound in space" (Cott 1974, 184). A similar phenomenon arises in, for example, the speaker arrangements of *Gesang der Jünglinge* (1955–56) and also to *Sternklang*, composed sixteen years later for five instrumental and vocal groups arranged in a planetary circulation around a central percussionist. In many ways *Sternklang* can be viewed as a summation of previous works: it exploits space, circulation and atmosphere to the fullest by being performed out of doors and at night; both the audience and the performers (in the guise of 'sound runners') are mobile, challenging traditional concepts of performance space (and also making it more reminiscent of a pop festival event); musical material can be heard 'bleeding' between *Sternklang's* instrumental groups, while the sound runners carry musical signals between the instrumental groups and through the audience, making the sound 'move' through space. The concept of the 'signal' feeds into all of the earlier works that utilise radio events, or imitate radio events; inter-musician 'feedback', and meditative performance modes echo *Stimmung*, *Ensemble* and *Aus den Sieben Tagen*.

*Ensemble*, which Stockhausen describes as "a pluralistic, a soloistic and a collective situation all at once" (Cott 1974, 188) manifests an early systematic

exploration of moving sound, but here, the main performance space is a fixed single unit<sup>17</sup> (a large gymnasium), the audience is mobile, the compositional ‘events’ (provided by the participants of the Darmstadt composition course) are superimposed within a strict formal scheme devised by Stockhausen,<sup>18</sup> and the musical events or ‘signals’ (including short-wave radio) are selectively transmitted throughout the performance space via a relay of speakers. Thus, there is an overlapping and bleeding of sound between groups of performers in the physical space, electronically by means of the speaker relay, and acoustically by the mobile audience members, who carry the signals with them. Hence, the audience and players hear layers of sound being transformed by superimposition, somewhat similar to the effects of *Spiral’s* ‘perm-poly’ symbol. *Musik für ein Haus*, another collective composition, takes the basic ideas found in *Ensemble* a stage further. Again, tape, radio and live performance are mixed together; again, there is a relay of speakers, multiple compositions are superimposed and the audience is mobile, freely accessing the performance at will; and again, the form scheme is provided by Stockhausen. But *Musik für ein Haus* differs in two important ways: the performance space is spread over five different rooms with intersecting corridors and stairways (linked via speaker relay, the fifth, known as the Klangbox, houses a simultaneous broadcast of the other four rooms’ music), and the performers actively signal one another, through sound and movement, for periodic moments of co-ordination. “In a given room you could see a trio all of a sudden re-forming into a quintet – two musicians were leaving while four others entered from different places: there was a continual exchange of performers. People really experienced a whole house vibrating” (Cott 1974, 189). The event never arrives, because through its dissemination, it is already deconstructed. In the COVID performance of *The Gauntlet: Far Away Together*, the klangbox room has in effect, become our headphones – this is the ultimate space of bleeding and moving sound. The principal difference is that it is all prearranged – as audience, we no longer have agency to alter our own sound fields. One can only wonder what Stockhausen would have done with the opportunities offered by SPAT. No longer would dozens of carefully placed speakers have been required, all of the spatialisation could have been achieved in the mix, although this also leaves us pause to wonder how different the performer and audience experiences would have been between the two methods.

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17 The performance was not quite restricted to one space. Stockhausen directed the players and composers to leave the gymnasium; “as they drove away, the instrumentalists kept on playing in the back of the open-roofed cars or through the open windows’ in a kind of ‘farewell music” (Cott 1974, 187).

18 *Ensemble’s* sound events are derived from either notated material, pre-recorded tapes, or short-wave radios, and then submitted to various live processes of transformation during the performance.

## Conclusion

Despite the many challenges presented to the rehearsal and dissemination process by the global pandemic, the performance was a success. Negative aspects were largely due to the slowness of work rate compared to a normal rehearsal, which at times could be very frustrating and mentally and physically tiring. The recording sessions were challenging for the same reasons, with some choral members finding the isolation inherent in the process deeply unsettling, as each singer was essentially alone in a large recital room, with a monitor screen, a piano and up to four disembodied voices giving, at times, simultaneous instructions from two wall mounted speakers. The hauntological praxis, embedded in not only the method of rehearsal but also the final work and its dissemination during the global pandemic, made for an experience where time was truly 'out of joint' for all of us, playing on earlier musical models – such as the 'nowhere' of radio – tele-technology, and the kind of fragmentary rehearsal and recording techniques more usually associated with modern film making than live performance. Of course, in its recorded form (available on You Tube) *The Gauntlet: Far Away Together* is endlessly iterable and continues to be freely available in a cycle of repeated virtual listening experiences. Truly, 'to haunt does not mean to be present' for the ghostly 'voice' of the choir is simultaneously both present and absent.

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### **GHOSTS IN THE MACHINE: A VIRTUAL CHORAL PERFORMANCE AS HAUNTOLOGICAL PRAXIS DURING THE COVID-19 PANDEMIC (summary)**

I compare Derrida's term *hauntology* (*Specters of Marx*, 2006), with technology's place in overturning the binary opposition of space and time. I discuss legacy, spectres and haunting as key elements of 'techno-tele-iconicity' and its relevance to technologically recorded archives, digital dissemination and rehearsal. I introduce the principal musical work under discussion: Sxip Shirey and Coco Karol's *The Gauntlet: Far Away Together*, including the circumstances under which it was rehearsed and performed at New York University Abu Dhabi during the COVID pandemic of 2021. I outline the importance of earlier hauntological models in the works of Karlheinz Stockhausen and later textual interpretations by Mark Fisher. I discuss earlier, live performances of *The Gauntlet* and how they differ from the COVID performance under discussion, while also showing how the Derridean concept of *différance* is relevant to the indeterminate nature of Shirey's work. I examine hauntological precedents in the works of Karlheinz Stockhausen in the 1960s and 1970s, and consider how radio static and zoom latency and distortion can function similarly in rehearsal and performance hauntologically. I provide a detailed examination of the use of the immersive audio system 'SPAT' in the sound design of *The Gauntlet: Far Away Together* and consider how this affects the audience experience of the work. I relate this use of spatialisation to earlier works by Stockhausen. I conclude by discussing the negative and positive aspects of the performance process for *The Gauntlet: Far Away Together* and its future digital iterations.

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