Electroacoustic Performance Practice in Interdisciplinary Improvisation

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The increasing mobility and accessibility of electroacoustic tools in recent decades has brought electroacoustic performance practice into ever-closer contact and collaboration with a broad range of other performance paradigms and art forms. This paper will examine some of the issues this implies for electroacoustic performance practice, focusing specifically on the context of free interdisciplinary improvisation, which arguably represents a particularly clear case of a fluid performance situation and the dissolution or renegotiation of boundaries between practices and art forms. Central issues include tools, mobility, flexibility, and communication.

Technological change over the past decades has seen electroacoustic music move increasingly out of the studios, onto the stage, and from there to broader, more varied, and more flexible performance contexts. This in turn has brought electroacoustic and electronic tools and methodologies into ever more intimate contact and collaboration with the full range of arts practices, from other musical forms, to the other performing arts, and beyond. While none of this is entirely new in and of itself – performance collaboration has been a part of electroacoustic practice since the early days of the form – we see today a level of integration that begins to dissolve boundaries between genres and between art forms. As a result, performer roles expand beyond previous limits and borders; practices shift and lines blur; and the notion of electroacoustic performance practice becomes less clearly outlined, dissolving instead into a more fluid pool of performance possibilities, opportunities, and affordances.

These developments pose a number of challenges, as electroacoustic performance practice is reconfigured, renegotiated, and reinterpreted as it evolves and dissolves into these fluid, malleable, and transitioning performance contexts. This paper will examine some of the issues this implies for electroacoustic performance practice, focusing specifically on the context of free interdisciplinary improvisation, as both the 'free' and 'interdisciplinary' aspects offer something of an extreme case study, doubly so when taken in combination, and therefore set particular challenges for the electroacoustic performer.

Interdisciplinary improvisation

We will begin by clarifying each of these terms, beginning with free improvisation. We can claim a range for improvisation between *maximum freedom* at one end, and *maximum constraint* at the other. How realistic either of these extremes might be is clearly open to debate, as is how accurate it really is to polarize them in this manner; for one thing, free improvisation as practiced in many

communities today in fact involves quite a number of constraints, or at least conventions – if not for musical material, then at least for musical behaviour. Then of course there is the issue of *freedom through constraint*, of performers who find maximum freedom through maximum constraint.

Nevertheless, we can make some claim to the legitimacy of this range in improvisation, between freedom at one end – no pre-determined constraints, or at least none beyond those unspoken laws governing the community's general practice – through increasing degrees of constraint, from broad formal arcs, to rules of interaction, the specification of individual roles, the detailing of particular material, etc. This runs all the way to maximum constraint – possibly for example the use of a fully notated score, although this opens up a line of debate around the attempt to present improvisation and composition as polar opposites that is perhaps best avoided here.

The challenges to the electroacoustic performer change somewhat depending where you are in this spectrum. Here we will primarily be considering the 'entirely free' end of the spectrum, as it poses very particular challenges with regards to certain categories of electroacoustic tools, which are sometimes of significantly reduced importance as one moves elsewhere in this range of improvisation practice.

Some of the observations we will be making are drawn from the work of several Helsinki-based research projects and performance groups focusing on interdisciplinary free improvisation, most notably the Sound & Motion project (Andean / Decoster-Taivalkoski 2012) and the Research Group in Interdisciplinary Improvisation. While some of these projects involve only a couple of disciplines, some of them – most notably the Research Group in Interdisciplinary Improvisation – involve a fairly full spectrum of performance practices. This latter group, for example, includes performers from fields including sound, music, theatre, performance art, dance, lighting, film and video,

and studio arts – in other words, a significant majority of the performing arts, and even some art forms that are not normally considered performative at all. Not surprisingly, there are a number of interesting challenges and issues that arise when trying to combine and communicate between such a broad range of practices, but a couple of these are of particular relevance to the electroacoustic practitioner, and again, particularly so in a context that combines this degree of interdisciplinarity with the free improvisation paradigm.

Tools and technology

The first of these involves the incorporation of technological means and media by performers such as electroacoustic musicians, sound artists, and video artists. There are several aspects of such tools that are potentially problematic in multidisciplinary improvisation, but one in particular that stands out with regards to free improvisation.

Preconceived design

To a significant extent, some categories of electroacoustic tools must be prepared or otherwise defined beforehand. A patch must be coded, an interface must be mapped, presets prepared, and so on. One finds, of course, a full range of flexibility in the instruments or tools that result; this is not a claim that such tools are a priori too inflexible for free improvisation. However, inevitably, they require the performer to imagine the potential needs of a future performance situation beforehand. This is problematic in free improvisation, firstly because the chances are significant that the performance will travel in directions that were not, or maybe could not have been, foreseen or imagined beforehand; indeed, the better the improvisation, the greater the chances that this will occur. While it is possible to design a very flexible tool, it is extremely probable that the design of any tool will make a number of assumptions about the contexts for its use; this is very likely to reduce its suitability in situations that lie outside those limits, at which point the chances increase that the tool will be abandoned in favour of others with more tempting affordances for that particular moment.

This is of course by no means limited only to electroacoustic tools; every tool of any kind makes significant assumptions regarding its use, whether we are talking about a piano, a paint brush, or Heidegger's hammer (Heidegger 1927). Unlike a piano or a paintbrush, however, electroacoustic tools risk limiting their adaptability to truly unforeseen circumstances by limiting their potential for bodily engagement; however, we will return to this in a moment.

Preconceived action

There is another problem with the need to prepare electroacoustic tools for free improvisation in advance, and the resultant need to try to explicitly imagine the potential needs of a future performance beforehand, and this is a far more significant problem in free improvisation than in other improvisation contexts. Regardless of the relative flexibility of the tool itself, the performer has sat down and deliberately imagined and prepared a set range of performance actions and directions beforehand. We will not claim here that this is an ethical betrayal of the principles of free improvisation; however, it creates some very practical difficulties for the performer, as these preparatory imaginings tend to very significantly guide the performer's improvised output along lines predetermined prior to the performance, which is not ideal for truly 'free' improvisation. Not only do the performer's expectations before the performance guide the design of the code or the patch, the need to consciously act upon those expectations in the building of the tools tends to 'set the mold', as it were, greatly increasing the probability that in performance the performer will follow these pre-imagined paths, thereby making the performer less fully sensitive and alert to the unforeseen potential of the moment, and reducing their flexibility and agility in responding to this potential. While a more experienced improvisor is perhaps better able to tackle this difficulty, it tends to remain a tenacious and stubborn challenge.

Again, to some extent, this is almost always the case, regardless of the tool used. When one walks into the performance space with any tool at all – be it electroacoustic, an acoustic instrument, or a theatrical prop – there is some degree of planning, some thought as to how this tool might be useful or why you might want it there in the first place, which risks significantly influencing improvised events. For this reason, for example, the Research Group in Interdisciplinary Improvisation eventually made it a policy to arrive at performances with nothing at all, improvising only with what is afforded by that particular performance space and whatever it happens to contain, but this can be a very risky proposition. What's more, even if one arrives empty-handed, one is still guided by a vocabulary developed and established through the weight of prior performance experience, and, even in the freest of improvisation contexts, one often has imagined, however vaguely, some potential action or contribution beforehand. However, there is a key difference in how explicit such plans become when one is forced to deliberately code, patch, or otherwise design the tool oneself beforehand, thereby making clear and concrete what might otherwise have remained a vague notion in a larger pool of half-imagined possibilities.

Cognitive shift

Of course, another option is to design and implement one's tools 'on the fly', during the performance itself, thereby avoiding the need to define your tool beforehand, and allowing you to shape your tool according to the unfolding performance. This too, however, can be deeply problematic in free improvisation. Needless to say there are practical and feasibility issues in attempting this, but these can be significantly reduced with experience. What remains, however, is a twofold delay, caused on the one hand by the need to work momentarily 'offline', so to speak, before the desired sounding output is ready – be it live coding, synth patching, or simply loading a preset – exacerbated by the cognitive shift between this analysis mode and performance mode; doubly so, yet again, in free improvisation, which is predicated on the complete attention and devotion to the subtlest vagaries of the unfolding moment. It is significantly less problematic in performance situations in which *all* performers involved are employing such tools, which tends either to simply impose a short collective delay on communication and collaborative construction, or else to shift performance focus onto those elements and parameters for which this delay is not a problem. It poses a much more significant problem when attempting to interface with performers who are operating without this delay, however short the delay might be.

So, on the one hand, these tools have a tendency to become primarily reactive, rather than immediate: the performer senses something, prepares the response, then presents the response, by which time the moment may have passed, or some of the potency of the gesture may have been lost. On the other hand, we have this cognitive shift, in and out of the moment, often repeatedly during a performance; not only does this take a small amount of time, but far more importantly, it can be mildly to severely disruptive to that performer's attention and presence. This has been commented on by a number of people, Sergi Jordà Puig for instance (Jorda Puig 2005), as well as Newton Armstrong, who draws attention to a number of relevant dichotomies here, including 'flow vs. computationalism', 'planning vs. agency', Preston's 'representational vs. non-representational intentionality' (Preston 1988), 'functional vs. realizational', and 'essentialist vs. constructivist' (Feenberg 1999). Armstrong contrasts tools that require shifts in and out of "mental abstraction" and "symbolic representation" with embodied or "enactive" tools that allow for "an unconscious, unreflective mode of behaviour", "a merging of action and awareness", "a seamless continuity between perceiving and acting", and the collapse of "the boundaries between perception, reasoning and action" (Armstrong 2009).

Communication

However, there is a serious and often unquestioned assumption being made when bemoaning such challenges, which is that the first and foremost priority and requirement for strong and effective free improvisation is the immediate, unhindered, and unfettered communication and interaction between performers. In fact, this doesn't automatically need to be the case, or at least not the single priority that trumps all others; there are many performance paradigms, even improvisation paradigms, where this kind of communication is not terribly critical, for example groups or collaborations that highlight parallel play rather than collaborative play, or even collaborative situations in which inter-performer communication is not required to be quite so immediate or hyper-detailed (Bowers 2002). The moment this level of communication drops in priority, many of the problems described so far either vanish, or reduce dramatically in urgency.

One might take this one step further, to ask if this incredibly focused communication between free improvisors is not occasionally at the expense of communication between performers and audience. Inter-performer communication seems critical because the performers work together to enact the evolving work, but this ignores the audience's role in the ecological triad (Andean 2011), and therefore risks becoming insular and introverted. Guy Harries (2011) points to the two feedback loops in performance described by Eskelinen & Transtad (2003): "an interactive one between the actors", and "a transactional one between the audience and the actors". There is the possibility here that we are too heavily weighting the interactive loop over the transactional loop. In part, this may be due to an assumption that the source of pleasure in being a free improvisation audience member lies primarily in witnessing the quality, sophistication, and finesse of the interaction and communication between performers, which seems to downplay the importance of the aesthetic qualities of the results. This may be very similar to the assumption often made by the electroacoustic composer that the listener's listening priorities will be the same as the composer's poietic priorities, equated here with the performer's assumption that, since their own focus in performance is on this detailed communication with their fellow performers, that this is also where the audience will centre their attention. In contrast with this, we might propose that simply witnessing empathy between performers onstage does not in and of itself guarantee empathy between performers and audience, and that in fact the latter may at times even feel resentment at being left out of the loop.

Interdisciplinarity

We will now turn our focus to the interdisciplinary question, especially with reference to the Research Group in Interdisciplinary Improvisation. Initially, an approach to interdisciplinarity was envisioned that would centre on the communication between artists and performers from different disciplines. How does a musician interact with an actor? How does a dancer interact with a painter? Predicted points of research included differences in perspective between mobile and non-mobile performers, or challenges in integrating time-based performers – dancers, musicians, actors, etc. – with the arts that more typically take place 'outside' of time, or which are typically non-performative, such as painting, drawing, and so on.

We very quickly found, however, that the group's practice was pulling in a very different direction. Instead of remaining within the confines of our own disciplines and attempting to communicate across the borders, the group quickly gravitated towards a central point, where the various practices met, mingled, and combined, creating a single performance practice, clearly drawing on aspects of theatre, sound, visual art, and so on, but that was somehow either none of these, or all at once. Group members found themselves performing a combined practice, with individual performers shifting emphasis somewhat, from moment to moment, in the direction of a particular art form or another, without ever – or only rarely – taking a clear position within a single discipline. What results is thus less a matter of communication between disciplines, and more of a disciplinary melting pot; as a result, the group's activity might better be described, not so much as 'interdisciplinary', but rather as 'non-disciplinary'.

Electroacoustic tools

What does this imply for the electroacoustic elements? Once again, there is the issue of tools. In a situation where performers are fluidly and freely exchanging and combining roles, the use of expert tools risks segregating that performer, and prevents other performers from absorbing the contribution in question into their own practice. The tools or props brought in from a number of the other art forms pose no barrier whatsoever: theatre or performance art props are accessible to all; studio art tools are very familiar to pretty much anybody; even musical instruments can be fairly readily engaged with, even by someone with no prior experience with that particular instrument, or even by those with no prior experience on *any* instrument. Often, however, this is not the case with technological tools, which primarily means electroacoustic tools, film, and video, although many of us have enough experience with a camera or a projector to be able to incorporate these reasonably quickly as well, leaving electroacoustic tools as the primary challenge. The primary factor here appears once again to be the degree to which a given tool is open to "embodied modes of interaction", as discussed in detail by Armstrong (2009); not only does this determine the ease or difficulty of use for a non-expert practitioner, it also determines the extent to which the tools can be incorporated into another performance mode – the degree to which it can be co-opted and appropriated as a theatrical or performance art prop, or to which a dancer is able to grab it and engage with it.

Mobility

There are a number of characteristics of electroacoustic tools that have a significant impact on the extent to which the tool is available to be incorporated by other performers. The first is the question of mobility. A portable device immediately affords a much broader range of performance possibilities than anything that is limited to a specific performance 'station', as a more portable device invites engagement with and through spatially mobile performance practices, such as dance or theatre. This is closely linked to a question of 'flexibility of identity', referring to the ease with which a tool can be co-opted and redefined through a completely different performance act. A cable, a microphone, a handheld synth, even a loudspeaker, offer some opportunities for a dancer or actor to reinterpret the object by picking it up, turning it around, walking away with it, dragging it across the floor, etc., redefining the object in the process, all of which is made dramatically more feasible through the mobility and portability of the object in question. Some objects, however, are semiotically very stubborn indeed, resisting or refusing attempts to hijack or derail their identity, a laptop being perhaps the clearest example: run with it, stroke it, talk to it, do what you will – a laptop very stubbornly insists on remaining a laptop.

It is also very important, however, that not only the tool, but also the *sound*, be mobile, and importantly that the sound consistently localizes to the performer. This is primarily a question of communication with the other performers. To some extent, musicians and sonic performers are quite capable of closing their eyes and engaging purely aurally, although often this is less a question of performer-to-performer communication and more a question of engaging with the collective sounding output. This is not, however, a common characteristic of other performance arts, in practically all of which a given performer's output is intimately tied to that performer's location, movement, and gesture, and cannot be meaningfully abstracted or unmoored. It is not uncommon for a musician's individual identity to melt away into the collective pool, but this is much more difficult for other performers, for whom it can be quite disconcerting and alienating.

This problem is significantly exacerbated when the sound of a performer's actions is spatially removed from that performer, the obvious example being, of course, the 'voice of god' effect of having sound come from loudspeakers above and at one end of the performance space. In this case, not only does it hinder inter-performer communication by dislocating the sound source from the human agent that produced it, forcing other performers to schizophrenically split their engagement between either the agent or their output, but it also places that performer's output on a very different plane from the output of other performers, and in fact often imposes a hierarchical differentiation, with loudspeaker sound, if not taking on a dominant and defining role, then at least serving to frame and contain those performances that are more spatially restricted, and effectively to limit those performances. (There can be very similar issues involved in the use of cameras and live video projection, with some interesting parallels and differences, but that is perhaps outside the scope of our discussion here.)

However, once again we come up against this question of performance priorities. Is the unfettered communication between performers really our first, or only, priority? While the segregation of performer output between those coming from loudspeakers, and those that remain locked to the performers' bodies and locations, is disruptive to communication between performers, it is not automatically a problem for the audience, and in fact offers certain potential for expanding the audience experience, as Harries (2011) has also pointed out. For example, it offers the possibility to expand the performance frame to include both a local level and a field level, as described by Emmerson (2007), which is often readily recognized and accepted by the audience, who are perhaps less concerned by the precise localization of the performer responsible. This can serve to extend the performance and the performance space, both literally and metaphorically, in a manner that can bring diversity and variety to a particular performance event. It also offers a whole range of extended performance affordances, such as, again with reference to Harries (2011), phantoms, doubles, evoked absence, the uncanny, parallel worlds, etc., each of which, again, may make moment-to-moment communication between performers more challenging, but can make for a more satisfying or rewarding experience for the audience.

Further directions

Free interdisciplinary improvisation offers extremely fertile ground for a great many avenues of performance research, only a few of which have been touched on here. Other issues and directions worthy of attention include spatial and temporal shifts; performances with the virtual self; audience response; performance-as-research, and a

number of other methodological questions. Hopefully, however, this has served as an overview of a few of the central issues that arise in the encounter between electroacoustic performance practice and the free interdisciplinary improvisation context.

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[Abstract in Korean | 국문 요약]
다제간 즉흥 연주에서의 전자 음향 연주 실제

제임스 앤디언

전자음악 기기의 이동성과 접근성이 향상되면서 전자음악은 매우 다양한 연주 패러다임 및 예술 형태와 더욱 긴밀히 접촉하고 협력할 수 있게 되었다. 이 글은 학제간 즉흥 연주를 중심으로 이러한 논의의 일부가 전자 음향에 대해 함축하는 바를 밝히고 있다. 또한 유동적인 연주 상황에서의 연주 실제와 예술 형태 사이의 경계 해체, 재정립에서 두드러지는 명확한 사례를 논증적으로 기술하고 있다. 주요 논점은 도구, 유동성, 유연성, 소통이다.