From AI Enabling Sound Spotting to Zeitgeist Incorporated into EMS: A potential A – Z regarding the future of our field of Electroacoustic Music Studies

– a conference provocation

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Abstract

In 2001 I coordinated a conference, along with my former colleague, Andrew Hugill, at De Montfort University called 'Music without Walls? Music without Instruments?'. This international conference formed part of the launch of the then Music, Technology and Innovation Research Group (now Institute). My contribution to that conference was what I called 'a conference provocation' entitled 'From Algorithmic Jukeboxes to Zero-time Synthesis: A potential A–Z of Music in Tomorrow's World' (*Organised Sound* 6(2): 91–96, 2001).

For EMS21 I return to the notion of a 'conference provocation' and create a second 'potential A–Z' focusing on this year's EMS conference theme, namely Future Directions of Electroacoustic Music Studies. Given the 20' duration of a conference talk, the 26 ideas will be briefly presented including a statement why each area might serve the future of the electroacoustic music studies domain. Each one of the 26 will represent under-developed areas in the field, sometimes presented formally, sometimes critically and sometimes humorously, thus a provocation in the form of food for thought.

1. Intro

To address our EMS21 conference theme regarding the future of the field of electroacoustic music studies (EMS), I have decided to recycle an idea applied at another conference that took place at this university in 2001 in which I gave another A–Z provocation talk (Landy 2001). It was also forward looking but covered a much broader area. The following 26 items are proposed as food for thought regarding the future of our field and will hopefully stimulate discussion during this event. Some themes that evolve connect several entries. Let's begin.

2. – 27. A–Z

A **A**I enabling sound spotting and other new developments in analysis

Using information retrieval and pattern matching algorithms, researchers have attempted to extricate information from sound recording data for a variety of goals, for example, sound spotting. AI has of course become a buzzword. In terms of EMS as well as musical practice there are many applications in development and certainly many more to come. Through collaboration with computer scientists, powerful applications in analysis and other domains can be expected (see also O, T).

B **B**eyond the theories of Schaeffer and Smalley

Through my involvement with *Organised Sound* and the EMS Network, I am aware of citation patterns. If I can be blunt, EMS has too few theoretical models, be they broader ones such as those of Pierre Schaeffer and Denis Smalley or more contained ones such as Simon Emmerson's 'language grid' or my own 'something to hold on to factor'. The result: these are over-cited. In my book, *Understanding the Art of Sound Organization* (Landy 2007) I suggested that there were 'holes in the market' in terms of areas of investigation in our field. This remains the case. To assist in EMS's development researchers should consider the creation of new theoretical models for analysis, composition and other subfields.

C **C**ultural foci within EMS

One of those 'holes in the market' remains the socio-cultural investigation of sonic creativity. Certainly, this area is evolving with thanks to pioneers including our keynote, Georgina Born. Yet too few investigate our music from ethnomusicological, sociological and/or anthropological points of view. Without research findings related to the socio-cultural position of this body of music, the more difficult it will be (borrowing a term of Etienne Wenger's) to expand and multiply both our communities of interest and of practice.

D **D**issemination of both electroacoustic research results and musical work

We are experiencing a radical realignment of what dissemination is all about. Just think about the world of publishing, the recording industry, broadcast media and even the act of performance itself. The 20th century was the most radical in human history in terms of artistic content development. The 21st century will, thanks to digital media, see radical developments in all forms of dissemination. For example, what will *Organised Sound* look like in 25 years? It will soon offer a second online-only version to take advantage of opportunities print media cannot offer. What possibilities might we pursue in our field?

E **E**ducation at all levels: a central aspect of EMS

This is the first of several entries which support inclusivity. It is also closely linked to our interest in society. How is electroacoustic music best presented in schools? There is every reason to introduce young people to the world of sonic creativity. Making music with sounds

is potentially for everyone (see also F) and offers skills that are relevant to music, other digital media, even further subjects including science, technology and geography.

Through our EARS 2 pedagogical initiative (www.ears2.dmu.ac.uk), we have seen the introduction of making music with sounds implemented in schools internationally. Others should join to help convince governments and educators of its relevance and develop educational tools.

At university level, electroacoustic music education deserves greater focus as the subject grows and diversifies sharing best practice models and ensuring increased interest and participation. We are involved with research-informed teaching after all. See also K.

F **F**olk music, Sonic

This entry is one of particular significance to me. In a new book written with John Richards (under review), we suggest that sonic sampling and DIY cultures are particularly accessible to virtually everyone. Both can be pursued without any formal training, and can be extremely empowering, a great way to help potential enthusiasts over the threshold in terms of interest. Given this accessibility and the fact that both sampling and hacking cultures are ubiquitous we suggest they might be considered forms of 21st century folk music, in the sense of being of the people and existing outside of today's celebrity culture.

G **G**enres and categories, The ever-changing list of

When putting together the original ElectroAcoustic Resource Site (EARS), the genres and categories header was the thorniest one. It is ever-changing, which is a good thing. However, most entries are categories, not genres, a subject worthy of its own conference. Also, it created ontology issues. Given the relative scarcity of scholarship in this area, it is proposed that it becomes a more significant EMS focus.

H **H**olistic historical/synchronic perspectives

Relatively few publications investigate electroacoustic music holistically. In future EMS publications one might consider integrating works with popular, improvisation and fixed medium art music roots, just to name a few, as a healthy way to take us out of a silo mentality allowing diverse communities of practice to better exchange their knowledge.

I **I**ndividual and collective identity: community forming within a cluttered music landscape

The terms communities of interest and of participation have already arisen. Given the predicted revolution in terms of dissemination, it seems perfectly logical that existent and new communities both local and virtual will evolve from the very small to the very large. They should be as porous as possible to enable cross-fertilisation thus optimising their dynamic. This does not imply loss of identity; instead, it implies the opportunity for identity at both individual and collective levels to exist across communities contrasting the 'me era' of the late 20th century.

Identity (again a socio-cultural phenomenon) has hardly been investigated in EMS, yet its research would benefit the impact of musicians, educators and all other stakeholders.

J **J**amming together & virtually: investigating new forms of collaborative sonic performance

Electroacoustic music has come a long way since people complained about concerts in which nothing takes place. What is of importance here is the fact that our 21st century is offering new means of collaborative performance, whether in person or networked. Returning to sampling and hacking cultures, although both can be practiced by individual artists, they are normally associated with collective creativity. (Sampling collaboration can be sequential.) The field of electroacoustic music performance studies should come to the fore. Subjects including participatory performance, new forms of networked performance, even why laptop performance is largely so dissatisfying visually all form part of this area of investigation.

K **K**ey areas within EMS: after so many years, do we know what they are yet?

This entry is to do with: a) the areas that are in acute need of development within EMS, some of which are named in this talk; b) sister subject areas, such as traditional musicology and sound studies: how do they fit into our field? c) How do we, EMS, fit Practice as Research within our domain? Our delineation is ever-changing reflecting the field's dynamic. Still, as there have been several initiatives to map out the world of sound and music computing, EMS specialists have hardly engaged with such an investigation. I tried to launch this debate in *Understanding the Art of Sound Organization*. Is the time now right to form an EMS working group on this subject? The outcome of the investigation would highly impact E (Education).

L **L**istening and the listener, The centrality of

Although it is beyond doubt that means of production and creation are of great importance within our world of sonic creativity; nonetheless, the centrality of listening is and remains paramount. The ramifications of this statement in terms of production, aesthetics, dissemination, appreciation and research are of enormous importance. Increasing our understanding of the implications of this fact should remain high on the EMS agenda.

M **M**usic, The ongoing complex relationship between sound, the sonic and

I first became engaged with this issue when I coined the term sound-based music in 2007 to ensure that any sonic artwork could also be seen as music. That decision is, of course, a question of individual reception. Given the fact that aspects of electroacoustic music are relevant to the fields such as foley, game art and VR/AR (see V), we would benefit from scholarship to investigate these distinctions, not only from the ontological point of view, but also from the point of view of cross-specialisation links. A former colleague of mine, Andrew Hugill, opposed my notion of sound-based music suggesting 'it's all just music in the end'. My reply at the time was: we seem to be in the phase of antithesis (sound-based music) after thesis (note-based music) and await the moment of synthesis (just music). What ramifications might this subject have in terms of education, tomorrow's vocations, artistic production and so much more?

N **N**oise matters, Why

I once gave a talk about why I could not tell the difference between a good and a bad noise performance. Yet noise is a very interesting area, as is its association with loudness. Noise is that which is unwanted according to acoustic ecologists. It is an element employed in a variety of sonic contexts and enjoyed by a larger community than many might imagine. Of course, the number of decibels present in metal or other popular music events is at least as high as the loudness of a noise work. The world saw any sound become musical material in the last century; the success of noise is one of its most extreme manifestations.

Noise matters as noise is an integral part of our sonic universe. How this has come to be and where this journey is leading are cultural and musicological topics worthy of greater attention. In short, it is time that someone writes that article on the difference between good and bad noise pieces and others investigate how this combination of high intensity and noise has become so omnipresent across musical cultures whilst consisting of 'unwanted sounds'.

O **O**nline resources

One aspect of dissemination is our ability to offer dynamic online resources the likes of which cost a fortune in the past and were static. Working on the EARS site (currently at ears.huma-num.fr/index.html) has been a great learning experience about the power of sharing knowledge as well as discovering how to automate updates. Dynamic EARS 3.0 is currently being proposed in France and the UK to go beyond just text information and to become automated using data informatics, information retrieval and the like (see A). Our online resources include sound and work archives, but there is so much more we could offer. Given the expected changes in dissemination, how can online resources aid our offering of research knowledge in the future?

P **P**sychoacoustics and cognition: two areas in great need of further development

Another hole in the market is to do with embedding the fields of psychoacoustics and cognition into EMS. My colleague, Sven-Amin Lembke has done foundational work here and, subsequently, had difficulty gaining funding for his research as it seems to fall in between categories. It should not. Enhancing our field with subareas including perception, reception and the like obviously supports our knowledge regarding the listening experience.

Q **Q**uestioning

Many an artistic visionary has stated that art is about questioning society and I agree. Yet a good deal of sonic creativity possesses modest communicative intention. At EMS11 in New York I offered a keynote in which I suggested we support the coexistence of art for life's sake with art for art's sake, thus emphasising the notion of a dramaturgical imperative supporting communication and reception. This subject brings us into the realm of aesthetics as well as our socio-cultural focus with respect to the politics of sonic creativity.

R **R**eal-life experiential links regarding electroacoustic music

R follows naturally from both P and Q. It might be a simplification to say that reduced listening/écoute réduite was a major step in erasing connections with lived experience in electroacoustic works. Still, history has proven that numerous strict acousmatic composers have added identifiable sound sources into their works. Our educational and outreach initiatives have demonstrated that the use of identifiable sounds is something to hold on to when introducing sonic creativity to the uninitiated. Through making connections they easily engage with this universe of sonic possibilities eventually seeking a reduced listening experience in time. This entry in integral to both studies in production and reception.

S **S**ituatedness: Being there

Our world is one in which the notion of immersion is common, where one seeks a sense of intimacy through spatialisation. There have been too few studies regarding physical presence at sonic events whether a concert, site-specific installation or anything else. In virtually all cases the quality of the *in-situ* experience is superior if not far superior to any mediated version. To take an initial step, I am completing a book on the listening experience across a broad range of genres in which the subject of the *in-situ* experience is central.

T **T**echnology? Which is leading: the music or the

This entry is not a new one for me having discussed where the capital letters work best in the words, music technology. (I concluded a preference for a sole capital M or capitals on M and T.) I cannot say that the percentage of music Technology initiatives has diminished recently. To what extent are these technology for technology's sake? Can those involved explain what the intention of their initiatives are? Developing a technology for sonic creativity without an apparent application seems odd.

U **U**nderstanding the art of sound organisation: what do we (still) need to discover?

I must apologise for this one as the entry is my own book title, yet the title summarises what this entire talk is about. If we want to better understand the art of sound organisation from all possible angles, what is it that we still need to discover and how can we best integrate this into our subject? The book's publisher has decided to continue printing the original, yet it seems logical to update it. Perhaps our community might have a go at a more dynamic version.

V **V**R, AR and gaming – how will these new media disciplines fit in?

As already mentioned under M our opportunities as artists and scholars within the realms of VR, AR, gaming and the like are rapidly developing as part of our audio-visual new media landscape. Finding our place both in terms of practice and theory is essential as electroacoustic sound applied in these realms is inevitable. We can equally learn from protocols developed outside of music for musical application.

W **W**idening access and participation

This entry has been my idée fixe since the late 1980s. It forms the essence of seeking inclusivity and should be one of our key roles as scholars. It is related to every other entry in this talk. When I started to publish about the marginalisation of experimental music, I questioned the bubble of music within academe in which we teach future musicians to work within universities and academies without considering societal ramifications. Fortunately, today things are not so black and white.

Although the search for knowledge within EMS can easily exist within the bubble, I believe that this must coexist with research relevant to those potentially interested in the field.

X **X**L datasets: dealing with big data in a rapidly growing field

Directly related to our AI entry, X takes us into a realm regarding the ability to link up to big data for our research initiatives including simple searches. Let's take a case in point. Returning to the EARS project, the project team worked in as many major libraries as they could just under two decades ago to input publication metadata, abstracts and keywords into the website. They also determined which terms and definitions to include. Moving to today's environment, an editorial filter is still very useful, but much of the work can be done using applications developed in computer science. Regarding terminology, regional nuances can be captured by trawling through email lists or even social networks (and that *is* big data). In terms of discovering new publications and other media (e.g., works, sound examples) such algorithms can be invaluable and, furthermore, could expand the site beyond its current five languages. This is but one example of what the brave new world of large datasets can offer. Let us work as pioneers as well as benefitting from others' work in associated fields.

Y **Y**emeni and Yoruba electroacoustic music: local vs. global tendencies

In an era in which we are asked to decolonise our reading lists, where many seek inclusivity, the ever-interesting subject of the global and the local and cross-border acculturation is at least as relevant today as it ever was. Having recently been introduced to noise scenes in Lebanon and Indonesia, they are not just about this creative practice but also their cultural settings. Investigated within art music for centuries, in today's networked world, this subject is more vital than ever and yet the local seems infrequently visited by scholars. The more we discover, the better we can decolonise and become more inclusive.

Z **Z**eitgeist incorporated into EMS

As I come to the end of this talk, it's time to reverse the socio-cultural focus and look in the opposite direction. Electroacoustic music does not exist in a vacuum. Cultural trends from within and without can all influence aspects of sonic creativity and performance practice. Clearly our Q (questioning) entry forms part of the relationship with today's Zeitgeist. I believe we should take this Z entry into account in a great variety of scholarly initiatives in our field.

28. Outro

I have had but 20' to speak of 26 thoughts with an introduction and a final word. I know that I have only touched the surface regarding issues related to the future of electroacoustic music studies. I hope that, through this rapid-fire list of thoughts, our community will engage in some forward thinking thus helping to further develop EMS whilst supporting individuals' own research. I look forward to receiving your feedback.

29. References

LANDY Leigh, "From Algorithmic Jukeboxes to Zero-time Synthesis: A potential A–Z of Music in Tomorrow's World", *Organised Sound* 6(2): 91–96, 2001, 91–96.

LANDY Leigh, *Understanding the Art of Sound Organization*, Cambridge, Mass., MIT Press, 2007.