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JONTY HARRISON
University of Birmingham

What I did on my holidays: The concrete and the ephemeral in acousmatic composition

ABSTRACT

Listening to acousmatic music can be oddly like being on holiday. One is temporarily dislocated from one's normal environment and mysteriously transported to 'other' worlds, where (especially in later recollection, for memory is certainly at work here) the normal rules of physics can be transcended: events and locations are superimposed, one can leap instantaneously from place to place and the logic of cause and effect is malleable. This strange domain, this foreign aural land, nevertheless remains sufficiently related to our everyday experience for us to make sense of it and get our bearings: we seem to recognize places and scenes, events and occurrences we have never personally experienced first-hand; we 'know' – though we can never entirely know how we know – that these things are 'true'.

Acousmatic music is thus a hugely rich field of expression, and one as yet relatively unfettered by conventions and rules that dictate how it should be made, delivered and understood (in my view, the rules change, depending on the material involved). But this situation of artistic and material flexibility evidently makes some people very nervous, especially those in academic circles who would like to bring this upstart music to heel through codification. Starting out as an honourable and innocent attempt to describe, to help commit to memory the new soundscape for which no

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map exists, codification nevertheless has implicit within it the common 'guide-book' problem of implying that only those things noted in its pages are deemed worthy of engagement; it becomes, all too easily, a dogmatic statement of value, a rule book for future visits – and, in the case of composition, for future creation. Creating a formalized or systematized language to allow articulation (in prose) of what is being created (in sound) tends towards a situation in which, eventually, only such formulations are conceivable and permitted. It is, therefore, problematic for me that acousmatic music is often characterized as 'academic', for – through artistic practice and arguably by its very nature – acousmatic music is actually rather resistant to simplistic analysis, codification and reduction to repeatable compositional formulae.

Acousmatic music presents us with yet another problem, however. The experience of music – all music – sounding in time is both concrete and ephemeral: it exists in the moment, and afterwards relies on memory. In acousmatic music, this problem is compounded for, in place of the codified systems with which we are familiar, it is based on unique sound materials that give rise to unique musical structures. Its very basis is thus, simultaneously and paradoxically, both more concrete (to invoke Schaeffer's objet sonore*) and more fleeting and ephemeral than the established building blocks of stable, repeatable, easily quantifiable measurements of frequency, duration, timbre ….*

We are organic beings inhabiting an organic world, a world that is constantly in flux; whatever the speed of our assimilation of technologies that permit our deconstruction of that world into strings of zeroes and ones, our organs of perception and the cerebral machinery we employ to gain an understanding of what we perceive, are also organic. So, whilst concepts, schemata and pre-compositional strategies may contribute to the creative process, the final arbiters of success in our creative endeavours remain our perception and our ability to relate what we hear to what we understand ourselves to be.

Taking a camera – or recording equipment – on holiday enables us to capture the unique, fleeting moment, in an attempt to fix the ephemeral experience of being 'elsewhere'. For me, composition (and the teaching of composition) is the process of enabling such moments to evolve into larger musical expressions of human experience – a process that seems not only fittingly natural and organic, but also gives us something to celebrate. Like a holiday, life is fleeting enough.

INTRODUCTION

My name is Jonty, and I am an acousmatic composer.

I am adopting the confessional tone of an AA meeting at the outset, because my approach to composition is echoed in many other aspects of my life. I am, for example, congenitally disorganized, forgetful and do not plan ahead; I leave everything (including composition and writing this article) to the last minute – all qualities you really do not want in an academic, especially if he is your Ph.D. supervisor. Yet, by default, I *am* an academic because I happen to teach in a university; however, I really do not – in fact, I cannot – think of myself in those terms, even after 33 years in the job.

I mention all this at the start because it may help alert you to the fact that this is going to be less like a conventional academic paper and more like Molly Bloom's stream of consciousness soliloquy at the end of *Ulysses* (but without the sex). But the topics announced for *From Tape to Typedef: Compositional Methods in Electroacoustic Music* seem to me to be clearly linked, and to be crying out for some attempt to rationalize the otherwise rather

irrational position in which I, like many other people, find myself – that of being a teacher of electroacoustic composition in an academic institution; at first glance, the two things seem mutually exclusive. But *From Tape to Typedef* attempts to bring order to that chaos by implying that analysis, not only of the finished work and/or of the compositional intent, but also of the working process itself (in turn implying record-keeping and documentation in written form) will not only enlighten listeners, but also inform teaching (in turn implying that, without such data, the teaching of electroacoustic music is a house built on sand) and thus subsequent compositional practice. As you may not be surprised to discover after reading the opening paragraph, I have, to say the very least, some serious reservations about these underlying assumptions, which I shall try to elaborate from my personal standpoint of over three decades as a composer *and* a university teacher. I shall therefore touch on a number of topics announced in the call for *From Tape to Typedef* primarily because they all seem to be interrelated: academia and teaching (these two are not necessarily synonymous); communicating; my own compositional practice; the essential nature of acousmatic music; listening; analysis and the implied assumptions that conscious knowledge or understanding of what a composer is doing, expressed in words, can only be a good thing (for the composer and for listeners).

For me, the fundamental problem is that lurking under all of these considerations is a paradox. We know that music is, by its very nature, ephemeral; once the air molecules have stopped shaking, it has gone. All we are left with is an impression of it in the memory (and memory can play tricks!). In giving us 'something to hold on to' (Landy 1994), 'analysis' (in the broadest sense) must, to some extent, reduce the ephemeral quality that is such a large part of our experience of music. As an acousmatic composer, however, I am confronted by an additional paradox, which is that music that is fundamentally the most directly 'concrete' (i.e. music that grows specifically from the unique properties of individual sound materials – a Schaefferian idealist might assert that, whilst given starting materials could give rise to many different pieces, depending on which characteristics of that material one chose to develop, a given piece could *only* be the result of the chosen starting material) is simultaneously the hardest to analyse with reference to any general models – and thus also the most ephemeral.

SCHOOL'S OUT!

We start by considering the apparent dichotomy outlined above and address the following question: what on earth is something as elusive as acousmatic composition doing hiding in a dark corner of academia? Now, I do not want to get into a discussion of academia per se, and even less as to whether there is something intrinsically 'academic' about acousmatic music (in my view there is not; I am something of a reluctant academic who went into the higher education sector primarily because, back in 1980, you needed a room full of expensive hardware to make electroacoustic music and, as a permanently broke freelancer, I could not afford it; universities, however, could – hence the somewhat improbable linking of the two). Nevertheless, academia has impinged on my composition in two important ways: first, for me, composing is hard enough in the first place (a theme to which I shall return), which is why I do not feel I have the time (even if I had the organizational capability, which I do not!) to document every step of my route to the final piece

in any way that would be informative to anyone (students, musicologists or even myself); and second, the research part of my contract (i.e. composition), though supported by the academic institution, has in reality become increasingly difficult (especially over the past twenty odd years) to fit into the teaching year, and therefore happens predominantly in the vacations.

Now, this is where you will have to grant me some poetic licence, because the other thing that happens in university vacations is the family holiday. When I look at my compositional output, I am struck by the number of works that make use of sound materials gathered when I was on holiday, or at least away from home (even the casserole dishes that feature so prominently in *Klang* were not mine, but Denis Smalley's, discovered when I was working in the Studio at UEA and staying in his flat while he was abroad).

Why is it that I collect a large proportion of my sound materials when I am 'on holiday'? Well, first of all, when I go on holiday, I go prepared: I take as much recording equipment as possible (much to the irritation of my family, as I will not leave it unattended in the car, even for a few minutes): microphones, recorders, furry windshields and all the rest. By contrast, when I am going about my daily business 'at home', I may carry only a compact recorder, if that. (If you want a comparison, I bet that pretty much everyone takes a camera with them on holiday, but how many people take one to work every day?) I suppose this is the 'fear of the missed opportunity' syndrome – if I do not have recording gear to hand, there is a high probability that I shall happen across some unique and wonderful sound event that I shall not be able to capture. The second explanation, linked to the first, is that because I anticipate new sound experiences when I go to new places (and hence go prepared to record them), I also listen out for them more actively. So probably the simplest (and, therefore, simultaneously the most banal and the most profound) observation we can make is that we are more aware of the sounds we hear when they are precisely *not* the sounds of our daily lives. And when I say that, in anticipating new sound experiences when we are away from our everyday environments, and are thus '… more aware of the sounds we hear …', I am not referring only to the single isolated sound event, which may differ from its equivalent in one's own personal environment, but also to that sound in the context of, surrounded by, in relation to, the whole soundscape in which it sits – we are thus sensitized not only to an individual *objet sonore*, but to the relationships that exist between multiple *objets sonores*.

AN ANALOGY

Pushing the limits of my poetic licence a bit further, it seems reasonable to suggest that the 'holiday listening' I have just described is analogous to the situation in which we listen (and by this I mean consciously listen – with the intention of hearing and understanding) to pieces of acousmatic music. In both cases, we are temporarily removed from our normal environments and can journey freely beyond our everyday situations and the normal boundaries imposed by physics.

Of course, it is inevitable that some relationship to our everyday experience remains – otherwise, a piece would strike us as little more than a random sequence of sounds; there are sufficient vestiges of 'normality' to allow us to get our bearings, whether in a foreign country or an alien sonic landscape. In addition, our human tendency to convergent thinking leads

us to assume that there is probably some significance, some 'meaning', some relationship of cause and effect, in the fact of sonic events occurring in temporal proximity. We can thus have a sense of 'recognition', even if presented with events and occurrences we have never actually experienced, apparently located in scenes and places we have never visited; we accept that the experience is authentic.

COMPOSING AND CONSENSUS

I am inclined to suppose that, as a typical human being with typical ears, things occurring within the frame of 'music' (however one wants to construct that) that I can 'understand' (however one wants to define *that*) are, at least in theory, 'understandable' by other, similarly equipped human beings. This consensus, whilst certainly not universal, seems to me to be broad enough to constitute a reasonable platform to justify the creation of acousmatic music, even at a time when such a focus on sound alone, without a visual component, appears to many people to be out of step or old fashioned, if not positively perverse.

In his influential article on spectromorphology, Smalley agrees that certain combinations of events from the vast array of sonic possibilities open to acousmatic music can seem 'right' – and not just to the composer:

> Music is not created from nothing. If a group of listeners finds a piece of electroacoustic music 'rewarding' it is because there is some shared experiential basis both inside and behind that music.
>
> (1997: 107)

This discovery of similar responses among a number of listeners is not surprising, given similar knowledge and experience within a common cultural background. It is tempting to go further, however, and infer that there may also be some common tendencies among pieces, if only we could identify them – and that this knowledge, once identified, might be codified and rendered capable of onward transmission, independent of the sounding experience of the music, through teaching (after all, it has happened before in western music!). Up to a point, I do not have a problem with this notion, but I am cautious about a set of features observed in one piece of acousmatic music being proposed as a model for another. In my opinion, unique, individual sounds, mediated by a unique, individual musical sensibility (the composer's), lead to unique micro- and macro-structures, unique form (and then not even the only structures and forms possible from those starting points, as E. Varèse (1959, quoted in Varèse 1966) famously postulated in his analogy with crystallization). So, if an acousmatic piece in the *musique concrète* tradition grows from the specific qualities of the material used, then what we learn through analysis of that piece is primarily relevant to that piece alone, and cannot simply be unthinkingly reapplied to other material without a potential mismatch of form and content and/or the risk of mere pastiche (though again, historically, this is the way 'music' has been taught, of course). Smalley clearly warns us of this danger in relation to spectromorphology, specifically stating that it '… is not a compositional theory or method, but a descriptive tool based on aural perception' (Smalley 1997: 107).

I am reminded of a very interesting little book, David Keane's *Tape Music Composition* (1980), whose appearance coincided with my appointment

at Birmingham. As Keane explains in the Preface, he was attempting to provide information on '… not so much how to make individual sounds, but rather how to combine such sounds […] into a satisfactory composition …' (1980: iii). He offers broad guidelines about music and its composition in the form of general observations, which can strike the reader as either extremely profound or incredibly naïve. For example, in discussing duration, Keane writes:

> The following are generalisations about durations and tension levels (in certain contexts there are of course exceptions):
>
> as durations become shorter tension increases
>
> as durations occur more rapidly tension increases
>
> as durations become less regular tension increases
>
> as the above are reversed tension decreases.
>
> (1980: 26)

There are comparable formulations for loudness, pitch, timbre, texture and tempo. It would be difficult for any musician to disagree with any of these general summaries, but, as musicians, we can all think of plenty of exceptions to these 'rules' – a fact of which Keane himself was fully aware, hence his important caveat about exceptions occurring in certain contexts. The book, as I implied, above, has a certain naïveté (though this is also part of its charm) and it is also very much of its time, as the title suggests. Nevertheless, Keane's brave attempt (how many others have there been?) to offer guidance on creative rather than merely technical matters should be applauded, even if, when viewed objectively, he is doing little more than stating the obvious; it would be a little like the Scunthorpe United manager (I was born in Scunthorpe, so I am allowed to say this!) telling his team that the way to beat Barcelona is to go out onto the pitch and score goals – self-evidently true, but somewhat lacking in specifics! And those specifics, of course, are context dependent.

So, whilst 'analysis' per se, even if it ends up only taking the form of general observations along the lines identified by Keane, is not a problem (and aural analysis by composers of other people's music can certainly contribute to that composer's subsequent decisions, even if only subconsciously), problems can arise when we are tempted to take the next step and formulate our analytical findings into rules – a fundamental danger of working within an academic framework. Analysis may help us grasp more concisely what it is we perceive in a particular work (assuming an already established and deep familiarity with the sounding surface of that work) and hold on to it after the piece has stopped sounding, but I am far from convinced that it can really tell us what the composer actually did – and, much less, why (and, even less again, how to compose our next work, unless the aim is simply to produce pastiche). In any case, poiesis, the composer's intentions in, or assumptions about, what he/she is doing in the creation of a work, is only part of the story, as J.-J. Nattiez ([1987] 1990) points out; what the listener understands on hearing the work also participates in creating the identity of that work for that listener on that occasion (things will probably change on subsequent listenings).

Of course, all this discussion begs the question of precisely how an analysis is done; different analytical approaches will favour different discoveries and lead to different conclusions. But one thing is certain: in acousmatic music, analysis will always involve listening. And here I would simply state the obvious, which is that, in the creation of a new piece of acousmatic music, the composer is also always the first listener – the intention/reception feedback loop (Weale 2005) starts right there. So if, as the composer, *I* am not convinced, engaged, moved by what I hear, then I would not expect other listeners to be, so will not inflict it on anyone else! This is why, although improvisation is a fundamental part of my compositional technique in the studio, I am not an improvising performer – 95 per cent of my improvisations are not sufficiently musically engaging for enough of their duration ever to find their way into a finished piece! For me, the ability to stand back from improvisation, to listen again at a later time and to assess the effectiveness of a particular moment in a particular context as objectively as possible, is a key aspect of the process of compositional selection and decision making.

COMPOSING AND TEACHING

In previous writings (Harrison 1998, 2000), I described the act of composing acousmatic music as a partnership between material and composer, each interrogating the other, offering suggestions about how to proceed, based on the specific qualities each participant brings to the party. Acousmatic music is thus the interaction between a unique set of sound materials and a unique human/musical sensibility – a sensibility formed by the sum total of that individual's musical and listening experiences to date. The teaching of composition is thus the art (and yes – I believe it is an art) of *not* imposing set models for students to emulate, even less of imposing my own set of musical values on them, but of helping individuals to become better listeners and, through this, to unlock their own means of interacting with sound and discover their own compositional voices.

What I teach, in a pedagogical approach reminiscent of that of the Groupe de Recherches Musicales, are ways of listening, of exploring and interacting with sound; I do not teach in terms of specific sonic results or outcomes. I encourage exploration, experimentation and critical assessment through listening. I may say to students that something 'works' or 'does not work' in what they bring to tutorials, but I always remind them that my assessment is personal and aural, based only on the sound materials and on their specific behavioural (energy) profiles within a particular musical context. I might say, 'You could try some compression on that' – but, again, this is entirely context dependent and it would be a mistake to extrapolate any kind of 'rule' from that particular instance. In tutorials, I frequently neither add nor remove any of the students' materials, but merely lengthen a silence or elongate a decay, adjust the timing of an event, reshape the amplitude profile or the spatial trajectory of a single element, seeking to change the passage for the better. I do not tell them *what* to compose, but simply seek to help them make their own musical ideas more eloquent. But I am always at pains to remind students that this is only what my ears hear, and I am not the composer of their pieces – the ultimate decisions lie with them.

THE HARRISON 'METHOD'

I am aware that I may be guilty of being a bit coy about my own composition, so I think the time has come to reveal in all its complexity my method of composing with 'sounds related only one to another' – and here it is:

1. Record some interesting sounds (usually real, but could be synthetic)
2. Process and develop them in the studio
3. Put them together with some others, adjusting as required.

This approach is clearly even more naïve than Keane's observations. But what more is there to say? Well, the thing that I have not spelt out (probably because it is so obvious to me that I find it hard to conceive of any possibility of thinking differently), but which clearly underpins everything I do is that at each and every stage, no matter how recursive the procedures, the judgement of whether something is worth pursuing is *always* and *only* based on listening, on aural assessment, on what I hear: the primacy of the ear. Extramusical ideas and compositional schematics can be useful aids to the composer, but they do not guarantee anything in the aural domain: if I cannot hear it, it is not there – or might as well not be. My only concern is: does is work when I hear it?

However, as I would not wish to appear flippant, I feel I should elaborate briefly on each point of my compositional 'method':

1. Record some interesting sounds

Any sound is potentially interesting, depending on the context in which it eventually emerges in a piece (the corollary of which is that I end up with 134 variants of a single sound that I am unable to discard, 'just in case' the right context should crop up). Nevertheless, the personal preference of the composer ('taste' if you like) means that some sounds are more interesting than others to that individual. The decision to record 'this' as opposed to 'that' (or whether and when to record at all) may well be completely speculative: at the moment of recording, I often have no idea of how a sound will be used, or even whether it will ever find its way into a piece; I just find it interesting, so I record it. Alternatively, the choice of what to record may be influenced by some vague notion that I may have for a piece (what it's 'about' or even a title in some cases). But I never know at this stage exactly what will happen when, or how long the final piece will be – in other words, I have no notion of the overall temporal structure of the finished work. That emerges progressively through stages 2 and 3.

2. Process and develop them in the studio

How do we determine which processes should be used on each sound? This may depend on experience, on imagination and on accessibility (to software, equipment or a programmer, if one does not have much in the way of programming skills), but it will probably (hopefully!) have most to do with the characteristics of the individual sound in question (and it is probably with individual sounds that one starts this processing stage). So the internal characteristics of a sound source give hints as to which transformational processes might be most fruitful to explore – some may prove to be dead ends; others may open up whole new sound worlds that I never thought of at the outset

or, at a certain point, suggest a completely different direction or sequence of processing. Of course, the transformation of sound materials is potentially an infinite process, so another compositional question is: when is a sound 'finished' – i.e. sufficiently processed? Again, this is context dependent, so it is very difficult to pin it down to some kind of rule.

3. Put them together with some others, adjusting as required

How do we make decisions about which sounds to mix together, their relative levels, their timing, their spatial deployment? How do we deal with questions of frequency masking, of muddying the texture or the space? I can only finally decide when I hear each result and, in the first instance, I can only recognize that a short passage 'works' (i.e. satisfies my ear with respect to balance, spectral content, dynamics, gestural shape, amongst others) or not. However, even that may not be the end of the matter – I may need to step back once again to stage 2 (processing) to develop more variants that offer more compositional options; I may even need to revisit stage 1 and record some completely new material that stages 2 and 3 have suddenly suggested that I need!). In addition, I can spend hours listening to the same five seconds, over and over again, making minute adjustments of timing, level and space, until I am happy that 'it works'. But then, when I pull back and listen to that same phrase from, for example, 30 seconds or a minute earlier, I often find that it does not work in the broader context, and I have to start again. In my experience, everything depends on the context. This is why I rarely have a clear idea, certainly not a preconceived one, of the overall 'form' of the piece before I start, because, to agree once again with Varèse (1959, quoted in Varèse (1966), 'form' is a resultant of the sounds, the processing applied to them and the decisions taken about their shaping and placement. Very often, I have to adjust my original ideas, such as they were, during the course of composition because the sound materials refuse to yield what I had hoped for or, alternatively, suddenly offer me something interesting that I had not foreseen – serendipity certainly plays a part in my method. However, it is *my* responsibility as the composer to recognize that such a chance occurrence has musical potential and develop it further.

I could go on to make some observations about the kinds of sounds to which I am specifically (one might even say, pathologically) attracted and about my music at the 'stylistic' level. Among the former, I would list sounds that exhibit physical qualities, sounds that contain evidence of their cause (friction, for example), which may or may not include human agency. Generally speaking, I do not use (real-world) sounds whose envelopes have been reversed – or, rather, I do not allow reversed envelopes to be audibly perceived as such (there is a difference; after all, art is artifice!). Why? Because they are physical impossibilities, and no physics that I have met on any of my travels (holiday or otherwise) permits a sonic event to prefigure the energy input that caused it. I should also say that these days, I tend to use only real-world sound materials as the starting point for my work, though this has not always been the case (*Pair/Impair* is almost entirely made from EMS Synthi 100 sounds and *Klang* includes both analogue and digital synthesis, as well as evidence of my dawn raid on Smalley's kitchen); in any case, in the era of FFTs and other digital processing, one could argue that the divide between 'real' and '(re-)synthesized' sounds is rather fuzzy. I am also attracted to sounds that have actual or implied spatial content or behaviour, which is why I never record source material in mono;

real spatial information is infinitely preferable to artificial, post-production space (which probably also explains why I seldom add reverb!).

The above point leads conveniently on to the second question, that of my musical 'style' (I feel I always have to put the inverted commas round that word – probably because of the popular and irritatingly persistent misconception that acousmatic music is itself a style). I would seem to have an obsession with musical phrase (I am classically trained, remember) and with related issues of articulation (linked, no doubt, to my predilection for things that demonstrate causality and physical believability), with how and why sonic entities start and stop. Sounds rarely fade in or out in my music; they start and stop because other sounds articulate them into existence or oblivion in a referential network that creates the overall sound world of the piece. Articulation and phrase are, I suppose, an equivalent of the creation of tension and release (cadence) in tonal music. Further to this, I am also preoccupied with space – or, rather, with what Smalley now calls 'spatiality' (presentation to COMPASS Forum, University of Birmingham, 2013) – or, to be even more precise, with the qualitative, rather than quantitative, aspects of space and spatiality: to me, the perception *that* a sound moves in a particular way is more important than knowing the beginning and end points of its trajectory. This way of thinking about space extends also into my approach to sound diffusion, as discussed elsewhere (Harrison 1998, 2000).

MOVING TOWARDS SOME CONCLUSIONS

From all of this, you will have realized that my approach to composition is haphazard, unfocused and profligate of time and resources. Moreover, I would probably not be able to articulate clearly what I thought I was doing, even if my life depended on it! However, whilst I may find this perpetual experimentation personally draining, I find it hard to see an alternative approach or method (indeed, every single time I have gone into the studio intent on the realization of a fixed, pre-formulated, preconceived idea, I have failed miserably). If the parallel is not too fanciful, I wonder whether acousmatic music is not, almost by definition, always going to be in the equivalent of Schoenberg's 'free atonal' period – I am not entirely sure I am keen to rush into an attempt to 'rationalize' our (or, at least, my own) current practice into the equivalent of the twelve-note method (which, in my view, never produced anything as good as *Erwartung*).

Another theme of *From Tape to Typedef* was the possibility of developing a language that we can use to talk about acousmatic music outside of the musical event itself, without recourse to mere chronometric time references or simplistic descriptions (like 'the bit that goes …'). Some people might feel that my attitude to this possibility would incline more to 'No we can't' than 'Yes we can', but this is not so! I would not be in education at all if this were the case (and, by the way, there are few people less well-disposed to electroacoustic music than 'musicians' with a vested interest is keeping their arcane knowledge and skills sacred). Ultimately, however, I tend towards the view that my primary job in serving electroacoustic music is to make good pieces and to make them available. This explains not only my teaching but the existence of BEAST, which, as well as concert-giving and installation work, has done a number of educational events and has, almost from its foundation, been a touring system, going out to play electroacoustic music in all kinds of venues and situations – the vast majority of them not in academic institutions. Beyond this, I am not entirely sure how and in which forums the

dissemination of information to people not already engaged with electroacoustic music would take place; responding to invitations to talk is one thing; door-stepping people is a different matter, and I am not entirely comfortable with the implied need to go out and evangelize!

I agree we need to develop the audience for this music but, depressing as it can be in one way to set up a 96-channel BEAST system and play to an audience of 60 people, I would remind everyone, including myself, that 60 people may actually not be too bad for a rainy February night in Birmingham (or any other location). Acousmatic music does have an audience, as Jean-François Denis' empreintes DIGITALes label proves, but it is scattered all over the globe.

I end with a quotation about the game of tennis from David Foster Wallace's novel *Infinite Jest*:

> … locating beauty and art and magic and improvement and keys to excellence and victory in the prolix flux of match play is not a fractal matter of reducing chaos to pattern […] a matter not of reduction at all, but – perversely – of expansion, the aleatory flutter of uncontrolled metastatic growth – each well-shot ball admitting of n possible responses, 2^n possible responses to those responses, and on into […] a […] continuum of infinities of possible move and response […] beautiful because *in*foliating, *contained*, this diagnate infinity of infinities of choice and execution, mathematically uncontrolled but humanly *contained*, bounded by the talent and imagination of self and opponent, bent in on itself by the containing boundaries of skill and imagination that brought one player finally down, that kept both from winning, that made it, finally, a game, these boundaries of self.
>
> (1996: 82, original emphasis)

The analogy is with the composition of music is seductive. As with my own compositional method, an initial 'shot' is played, drawn from a supposedly infinite number of possible shots. However, in contrast to Wallace's exponential expansion, I find that the number of possible responses is already reduced because of the specific nature of that first shot, because of the uniqueness of that particular sound material; and every subsequent shot is yet further constrained in similar fashion. I would venture to suggest that the analogy suggested by this passage works better for music that is, like tennis, governed by physical limitations and by a set of rules: the laws of the game, that decree what is permissible – after all, a shot may be brilliantly executed but if the ball lands outside the boundaries of the court, it does not count. Unlike in music, where the beauty of the sonic event is hopefully deemed valuable in itself, in tennis, the ultimate object of the game is to win; mercifully, there is no equivalent for this in music yet, nor do we normally have the concept of an opponent. Thankfully, the tennis of acousmatic music is not restricted by such rules; it is played, using balls with unpredictable bounce and which change from spherical to any shape and size imaginable, on n-dimensional courts with no markings whatsoever.

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CONTRIBUTOR DETAILS

Jonty Harrison (born 1952) studied at the University of York (D.Phil. in Composition, 1980). Between 1976 and 1980, he worked at the National Theatre and City University, London. In 1980, he joined the Music Department of the University of Birmingham, where he is Professor of Composition and Electroacoustic Music and Director of the Electroacoustic Music Studios and BEAST. He has won several international prizes (Bourges, Ars Electronica, Musica Nova) and been commissioned by leading organizations and performers. His music appears on three solo albums (empreintes DIGITALes, Montreal) and on several compilations (NMC; Mnémosyne Musique Média; CDCM/Centaur; Asphodel; Clarinet Classics, FMR, Edition RZ and EMF). http://www.electrocd.com/en/bio/harrison_jo/.

Contact: Director, Electroacoustic Music Studios & BEAST, Music Department, School of Languages, Cultures, Art History and Music, College of Arts and Law, University of Birmingham, Edgbaston, Birmingham, B15 2TT, UK.
E-mail: d.j.t.harrison@bham.ac.uk