Register, Dialect, Convolution and 'Crosstalk':
reflections on '*… the zones of influence and hybridity between electroacoustic, acousmatique music, techno and IDM*'

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This paper explores the hybridisation of musical elements, particularly between those that foreground the use of technology across popular and art music. In its original form, the paper was presented to a conference Embracing rhythm…welcoming abstraction (…on the zones of influence and hybridity between electroacoustic, acousmatique music, techno and IDM) *held at Salford University in November 2013, and was an intended overview of the topic.*

In this context, '... zones of influence and hybridity' between different repertoires that are generally understood to occupy different registral strata are viewed primarily as a form of environmental adaptation, expressed through the evolution of musical language. The paper also considers the motivations for attempting to reconcile, through creative practice, the conflicting meanings and aesthetic frameworks signified by different iconic musical materials and idiomatic compositional procedures. In examining these motivations and practices it draws on Barthes' essay musica practica, to explore the significance to the creative artist of the network of relationships that link the different musics we compose or produce to the music that we might listen to or perform, or have encountered during academic training.

__Keywords__: *Music Technology, Hybridisation, Musical Languages, Hybridity, electroacoustic music, electronic dance music*

Introduction

'... zones of influence and hybridity' occur frequently in music, whether consciously, as part of a focused strategy, or contingently, due to chance encounters, speculative

investigation or perceived commercial opportunity. Collaborations between previously isolated musical cultures, as well as the sometimes-parasitical relationship between different forms of art and popular music, are only two common categories within a broad musical culture that is defined, in part, by the notion of 'fusion' and hybridisation. Whereas such interactions are only to be expected in the context of a globalised, multicultural post-modern artistic practice, in which the distinctions between art and popular culture become increasingly blurred, the interactions between different forms of electroacoustic art music and electronic dance music (on which this paper is specifically focused) can be characterised as much by the convergence of the technological means of production and dissemination as they are by attempts to resolve the familiar aesthetic tensions between conflicting meanings that are embedded in primary musical materials and their associated compositional methodologies; for example, the now familiar notion of the studio, laptop or other purpose-built interface as 'instrument', or at least as a site of exploration and improvisation (real or virtual). These paradigms of technological interaction share some common ground with the tactile nature of instrumental performance and improvisation, technological experimentation and *play*. They serve to form links, in terms of shared technological resources and common practices, between musics that may initially have had very different aesthetic and historical origins.

The Salford conference focused predominantly on hybridity between genres that might historically be termed 'high' and 'low' art practice, rather than on inter-genre flexibility. Whilst acknowledging the increasing redundancy of such terminology in the broader cultural landscape, there remains a distinction between music that is intended, primarily, to be *listened to* in an active and formal sense, and music that predominantly fulfills other social needs, for example, reinforcing identity and promoting social cohesion within specific cultural groupings and/or dance. In general, the former category is currently largely institutionalised, and reinforced in an academic context by the notion of 'composition as research', whilst the second tends to operate

more visibly in the commercial arena (notwithstanding the commodification of 'time' that is inherent in the sale of concert tickets in relation to the former category)[1]. In conjunction with their associated genres and sub-genres, these two categories can still provide a useful way of locating an individual creative work (along with its distinctive interplay of musical signifiers) both in terms of its references to various popular and high art traditions and practices, and in the way it is linked to different genres and sub-genres within each category.

In terms of reception, electroacoustic music that is intended for dissemination as a contemporary concert work, and which directly references elements of popular music, might be viewed as something of a retort to the inertia of entrenched power structures and value sets[2]. However, in popular music, such exchanges are more likely to be viewed in the context of the seamless bifurcation of sub-genres. This spontaneous fragmentation can be attributed partly to changes in social groupings within what is essentially a youth culture, however, it can also be a consequence of the subtle shifts and ambiguities that are signified by what are often objectively small sonic 'mutations'.

In this context, the hybridity that might be observed between electroacoustic music and different forms of electronic dance music (EDM) is relatively narrow in scope. It attempts to resolve specific aesthetic differences, notably those relating to the use of metric and rhythmic structures in EDM and the more abstract materials and structures, along with the prioritisation of *technique* and sonic *quality*, characteristic of electroacoustic music. Importantly, part of the energy and creative tension that arises from this process is due to a guarded acknowledgement of the value and interest of the different sets of criteria that distinguish the two practices from both perspectives[3].

This paper explores this specific 'self-conscious' form of musical hybridisation in terms of its construction; its evolution in terms of musical language and social context (the composer's perspective); signification (the listener); converging

technologies (the producer/performer) and, finally, as viewed through the prism of different categories of individual preference and experience (biography).

Part 1: The Embedded nature of Hybridity

Construction and Language (The Composer)

In his article *Debate: From Refrain to Rave: the decline of figure and the rise of ground* Philip Tagg (1993) makes the point that '... perhaps techno-rave puts to an end ... nearly 400 years of the great European bourgeois individual in music, starting with Peri and Monteverdi and culminating with Parker, Hendrix [etc.]...'. Whilst Tagg focuses on broader social and political issues, in particular, the possibility that this was '... a radically different musical expression of a radically new socialisation strategy...' the argument relating to the non-individualist character of the music provides a telling contrast between the perception of the artist in EDM (often one or more pseudonyms) and the more conventional and heroic author/composer/researcher in electronic art music. However, individuality in EDM has not so much been lost as relocated, with pseudonyms acting as masks or avatars to imbue authority. What has been lost, arguably, is the direct link between the creative artist and a skill set that is contained within the bounds of direct engagement with the *mechanics* of either conventional instrumental performance or composition, as a consequence of changes in idiomatic methodologies.

The characteristic production processes, of a music which is essentially 'sample-based' and intended to be heard in its recorded form (whether as a digital download or performed through loudspeakers at an enclosed or open air venue), provide opportunities for composers to engage with a far wider range of musical sources than can be encountered by relying on genre-dependent expertise and training. Consequently, the identity of the composer (the composer's *voice*) lies as much in the chosen production methods as it does in the musical material itself.

Whereas this observation would seem to support Tagg's view, exemplified in the shift from individualism to collective consciousness in 1990s rave culture, it also suggests that the 'individuality' of the performer or composer has merely shifted its locus to the role of the music producer – a term that originally implied a form of 'project management' but which now includes all aspects of realization, from the initial sourcing of musical material, through composition, to performance as required. In this way, it reflects the collapse of A&R, songwriting, recording and production into a single, seamless process where the scouting for new bands or artists by corporations with their own, often unimaginative (but economically powerful) agendas, has been replaced by a process of (for example) sifting or 'prospecting' through old vinyls for inspirational source material, by individuals with the power to create and disseminate music using essentially domestic IT. Not unsurprisingly, these processes are reflected in the composition and performance of electroacoustic music, demonstrating a similar transformation involving convergence of compositional methodologies, technologies and dissemination strategies, if not an underlying shared aesthetic[4]. In both cases, the choices that the composer or producer makes, ranging from specific items of equipment to be used, software to be chosen or specially-authored, and sound sources to be sourced, form the 'subconscious' of the work, in a similar way to how the adoption of an established *form* or choice of initial pitch material for a serial work operated in earlier historical periods.

Whilst the 'composer' in electroacoustic music remains in some way central (partly due to the significance of academic authorship), practice is also evolving to a form of mixed economy where the creation of tools and 'processes' are foregrounded in relation to more conventional forms of 'repertoire'. In conjunction with this shift, different forms of improvisational practice have become a more common feature of performance than score reading or 'through-composed' fixed media works[5]. This tends to result in a more diverse range of outputs, which is only to be welcomed. However, the broad economic and academic environment is not necessarily conducive to

realising the full creative potential of any single 'idea' before there is a commercial or 'government-policy-driven research imperative' to move onto the 'next big thing'. In this way, the existence of different cycles of obsolescence – from intellectual through technical to commercial – results in different systems for evaluating a creative output, especially where the significance of the 'means' are as important as the 'ends'. In this complex landscape, the individual's creative agenda can be challenged by the priorities of academic *collective consciousness* in determining what constitutes 'good leading-edge practice' (or fashion)[6].

   In this creative 'mixed economy' it can appear that the '... great European bourgeois individual' has not so much disappeared but is spread ever thinner across an increasing range of related activities. The conscious adoption of forms of hybridity that arch across high and popular art forms, as well as horizontally across different genres, can be viewed as a way of reasserting individuality by presenting distinctive networks of finely-nuanced preferences that deliver personal analyses and declarations of conflicting interests, and which foreground the importance of biography. This approach is quite different from the more usual preoccupation of interrogating the aesthetic boundaries and technical limits of a single or limited number of related genres and methodologies.

Language Variation and Hybrid Forms.

Using language variation (and other aspects of socio-linguistics) as a metaphor for the evolution of musical elements in the context of hybrid musical forms can provide a useful framework for understanding the underlying tensions and potential fracture zones that are created in the juxtaposition of musical materials that clearly signify their differing cultural origins. For example, the idea that 'Language comes more and more to function as a measure of social distance' (Halliday, 1978, p.159) can also be explored in relation to music. Dialect (a function of who you are and where you are from) and register, which is essentially driven by the context of speech, can be used

effectively in understanding different forms of musical hybridity, especially those that combine elements of popular or improvised music practice with others that are more commonly associated with traditions that are predominantly 'composed'. In this way, *dialect* can be viewed as corresponding to different synchronous manifestations of a culturally related musical practice, whilst *register* might describe two different contexts for similar musical material across art and popular music. For example, an aesthetic preference for the use of loud, noise-based materials may manifest itself in the composition of acousmatic music, as much as different metal genres or EDM. In each case, the use of distortion may signify an idiosyncratic form of 'transgression', as much as being a simple timbral statement, however, the way in which it is handled will be markedly different. Finding ways of mediating between register (in the linguistic sense) using common materials is an effective approach for negotiating apparently contradictory aesthetic frameworks, as well as for discovering new ways of addressing different communities through hybrid forms. The apparent ease by which new technology (whether commercial, or the output of institutionalised musical research) enables such interpenetration of musical sources provides further impetus to the exploration of musical material across different dialects and registers. In this environment, relative social distance can be explored in the context of the ebb and flow of musical tension, and as the fulfillment of expectation in a similar way to harmonic variation and contour in tonal music. Arguably, technology enables such exploration to be followed in a more individual way by the artist than would be the case in earlier notated traditions, because the specifics of biography, and its highly nuanced influence on the selection of musical materials, are no longer mediated by performer, sound engineer or producer, as a consequence of the artist having more direct control over all parts of the production process[7].

Focusing on the hybridisation of EDM and electronic art music as a form of language variation, reflecting the musical equivalent to *social distance*, suggests that established narrative conventions would tend to prevail, according to the cultural locus

of the work under consideration. This resonates with Kerman's view that Schoenberg's great insight, in attempting to position himself at the vanguard of a tradition whilst '... negating what everyone else felt to be at its very core, namely tonality', was the understanding that it was *organicism* that was central to the ideology rather than '... the triad and tonality' (Kerman: 318). This distinction and disjunction between the political ideology and the social signification of different musical narrative paradigms, and the musical materials used to articulate them, is also central to understanding and mapping the 'zones of influence' between electronic art music and EDM.

The continually changing cultural and geographical environment in which new creative artists emerge also stimulates such variations in musical language. For example, in relation to '… zones of influence and hybridity', the (not so) new freedoms afforded by an embedded and now-legitimised 'sampling' culture,[8] along with a musical establishment perceived to be in decline, have both had a significant impact on the reduction of artistic, legal and economic obstacles to pursuing previously forbidden musical temptations.

In terms of overall approach, three common categories can be discerned. The first, a conscious theoretically-grounded approach, demonstrates a clear motivation to 'hybridise' specific musical genres without compromising the integrity of the constituent parts. This is balanced by a second approach that might be analysed more in terms of a socio-geographical model of synchronous musical experience (and influence). That is, irrespective of whether the music experienced is 'live' or reproduced, old or new, high art or popular etc. it is a de facto piece of the jigsaw that forms the specific sonic landscape in which an individual is immersed[9]. From this perspective, all pieces, irrespective of their origin, are of notionally equal status (but size matters). However, each cumulative listening experience is distinctive as it is the overall 'mix' that contributes to the sense of identity that is reflected in the music, rather than the meanings signified by individual components. A third distinct category

is one where the technology of production or dissemination is itself more central to the artistic pursuit: for example, works that focus on the sonification of data streams, and 'live-coding', which (arguably) represents a hybridisation of programming and musical skills in the context of improvisation. This improvisation may also be shaped by global decisions regarding its structure, or by pre-determining the musical material to be explored[10].

Perception of Hybrid Forms (The Listener)

Engaging with the interplay of musical signifiers within the source elements of hybrid forms can, for the listener, be rather like witnessing the results of a series of experiments with a musical chemistry set, where certain musical elements can act as catalysts for perceptual shifts in which the answer to the question 'what type of music are we actually listening to, and what does it all mean?' is constantly in flux. Whereas this can lead to some stimulating musical experiences, the inevitable ambiguities of intention can be somewhat disorientating - although even 'disorientation' as an intended response to a musical experience can be viewed as a positive outcome[11]. The way in which a listener resolves such apparent contradictions is usually associated with the relative strength of primary musical signifiers such as regular tempo, rhythm and meter, as well as recognisable harmonic progressions and/or patterns. This suggests that the main perceptual 'tipping point' in relation to perception of the 'register' of the musical language is, somewhat predictably, related to continuity and discontinuity in both temporal (rhythmic) and spectral (harmonic) domains, i.e. identification of differences between narrative paradigms. Therefore (and aside from all non-aural cues such as the context of the musical experience), whether the result is perceived as a work of 'high art' that references popular forms and content, or as popular music that makes aesthetic references to more abstract musical practice, is not only an issue of how a practitioner works with musical material, but also an issue of the underlying politics of where you end up as a consequence of an ability to

recognise the conventions of these narrative paradigms – or not. Simply arguing that 'one tradition informs the other', in a form of liberal partnership, avoids the obvious tension between the intellectual authority that is symbolised (historically) by music composed for the concert hall (despite its lack of economic and cultural penetration) and music that is essentially rooted in a rebellious youth culture (despite its economic power).

Ambiguities regarding the final resting place of the musical output (in a cultural sense) reveal the competitive nature of high and low-level musical structures, as well as the surprising strength of their powers of signification, and the potential for a sense of 'transgression' when things get mixed up. From this viewpoint, hybridity is interesting and significant primarily for what it symbolises in terms of relative 'social distance'. Its capacity to create and exploit tensions and vulnerabilities on this level, through the manipulation of narrative codes, as well as through the juxtaposition of seemingly incompatible musical material, makes it a powerful strategy in critical music-making.

Complementary to an understanding of the narrative codes and primary signifiers within a hybrid work is the meaning that we can deduce from the physical properties of sounds themselves.

In both electroacoustic music and EDM, the communication of 'energy' and its relative ebb and flow is a significant component of musical discourse. Closely allied to tempo, the energy profile of an EDM track might indicate function (dance mode, chill etc.) whereas in electroacoustic music, careful selection and management of energy profiles at different levels of the work contributes to meaning, and these often imitate the organicism, as well as the discontinuities and juxtapositions that might be encountered in instrumental music with a shared aesthetic.

Whilst the musical materials characteristic of the two categories may often seem to be very different (and irrespective of the degree to which abstract forms might be part of compositional design), a listener will inevitably experience some form of

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emotional response when listening to the music in question. Aside from the degree of familiarity or competence that any given listener may possess in relation to a specific genre, much of the communicative power of the music will reside in the timbre and energy profiles of its constituent parts, as well as in the more global characteristics that indicate differences between traditions, genres and sub-genres. This is just as true of 'dub-step' as it is of electroacoustic music, in which the evolution of spectrum over time, and its significance in relation to perceived musical discourse, has been developed into an important and well-known body of theory by Denis Smalley, and earlier by Pierre Schaeffer[12].

However, a significant difference is that much popular electronic music still evokes conventional performance paradigms in the way that sounds are organised into categories; for example, percussion, lead lines, vocals etc. As the shift, from the recording of a performance as a form of documentary evidence that the performance took place, to the recording as an illusion of a performance that never took place (at least in any conventional sense), is completed, then adapting the methodology developed for understanding electroacoustic music in terms of the attributes of its components, and the deduction of meaning from the energy profiles of sounds, becomes increasingly appropriate. Smalley uses the term 'surrogacy' and its different levels to explain the mechanisms by which we can infer meaning from a continuum of musical utterances, from the human voice, to increasing levels of abstraction by way of an understanding of the significance of contours of timbre, and the way that they evolve in time. Additionally, similar techniques could also be applied to music where the *attitude* of the music – a socio-political parameter - is communicated, through a familiar rhythmic and metric paradigm, by the distinctive timbre of musical materials (samples), often in conjunction with characteristic or innovative production techniques. Interestingly, in forms of rap music there can be a significant disjunction between the apparent meanings embedded in some of the sonic elements, and the lyrical

component. It is often unclear whether this arises from expediency alone or is another example of disjunction used as a form of creative tension[13].

The importance of contrasting timbres and their evolution in time (morphology) in signifying meaning, as well as being a primary means of variation, is one link between the different sub-genres of EDM and electroacoustic traditions. The meanings signified by the *quality* of individual sounds and textures, along with those associated with their periodic or aperiodic patterning and setting within existing narrative codes, lie at the heart of the evolution of local musical languages, and their bifurcation into different sub-genres.

The Structure and Impact of Enabling Technologies

Although *intentional* hybridisation is the topic under consideration, a more contingent form of hybridity is, perhaps, the inevitable outcome of numerous low-level technical processes that use the hybridisation of sound materials as a primary mode of variation. Many new and more traditional idiomatic techniques are deeply rooted in what might be termed the aesthetics of elementary technical procedures that are characterised by a signal path comprising one or more inputs, a process, and an output[14]. That these core techniques have, historically, only exceptionally been mirrored at the higher structural and narrative level says much about the strength of the narrative conventions imposed by different genres. However, the sense of 'transgression' experienced in crossing registral boundaries at the structural level is a feature of some of the early work of Frank Zappa, for example the 1968 version of *Lumpy Gravy*, and John Zorn, for example, *Snagglepus* (from *Naked City* (1990)). Both of these examples use fast intercutting of sections that allude to different musical genres, and which mirror film *montage* techniques. Both frequently allude to modernist composed music – Zappa, in the form of *musique concrète* and Zorn in the use of sustained, noise-based interjections that frame and punctuate fragments of different genres of popular music.

Technology, whilst an enabler of the creative process, is also part of the overall aesthetic framework in which a work, or body of works, is realised. However, technology evolves independently from shifts in aesthetic preference, creating interesting tensions and disjunctions between the need for technological solutions to 'existing' problems, and the realisation of coherent and relevant creative work that employs available technology to the full.

Whilst the technical context in which practice and dissemination take place continues to evolve in accordance with its own trajectory of innovation, the motivation behind such activities (e.g. the production of art as social critique, as commodity, or to reinforce cultural identity through the colonisation of social and sonic space etc.) remains largely unchanged. This motivational framework for artistic practice has, historically, been enabled by a set of core techniques that include the superimposition and juxtaposition of recorded or synthesised musical materials, their transformation by means of signal processing, and their subsequent sequencing into cyclic, linear or fragmented narratives that reflect the cultural preferences and 'slogans' of the group from which they emerge.

These common studio processes, whether in the form of recent digital technologies or their analogue pre-cursors, enable the interplay between musical languages (and dialects) by focusing on the manipulation of stored (historical) materials, as well as by capturing and manipulating live performance. When directed at the transformation and recontextualisation of (traditionally) incompatible musical materials, their functions, and what they might signify, can also be viewed as an important component in establishing the conflicting identities that are characteristic of the hybrid forms under consideration, that complement the meanings associated with the source materials themselves. The shared nature of this resource base suggests, for example, a means by which the more familiar cyclical materials of popular music

can be integrated with the more linear narratives and alienated states of twentieth-century modernism[15].

Whilst this powerful framework for communication can be used to reflect the eclectic nature of contemporary artistic practice and the subtleties of the 'synchronous' listening experience noted above in endless interesting ways, the generic nature of these processes can also introduce a form of creative 'inertia'. This is largely a consequence of a constant need to reinvent and re-define (as well as simplify) these core processes and compositional paradigms, often by presenting relatively superficial enhancements as if they were radical alternatives. This need is driven in part by commercial and research imperatives, but also by a desire to connect specific production means to genre and identity.

For example, the ubiquitous use of idiomatic signal processing techniques, particularly in their digital implementations, can also influence the identity of music with respect to its dialect and register, through links and associations with existing repertoire. When combined with specific *attitudes* towards musical material (for example, the degree to which experimentation, improvisation or *play* is central to compositional procedures) the use of specific processes, because of their evocative powers, helps to form a continuum between the tensions that might exist in the interplay of conflicting musical elements at a micro-level, and genre and sub-genre identity. Importantly, they also provide a consistent means for the variation and organic development of musical material, regardless of the distinctive meanings associated with the original sources.[16] Therefore, the detail of the technical procedures used to realise a work is a significant contributory factor in the perception of hybridity, although this perception does rather depend on an understanding of the role of these procedures, in the context of the dialect and register of existing music, as well as a recognition that they are somehow being juxtaposed.

In musical situations where idiomatic processes or innovative technologies are foregrounded with respect to signification, it is unsurprising to find a corresponding

'loosening' of the significance of musical content altogether, where the identity of content is somewhat secondary to the various processes to which it has become 'designated input'[17]. Possible examples are the prevalence of 'granular synthesis' as a tool to sustain texture in computer-based improvisation, and the re-voicing of breakbeats in EDM. In both cases, there is a disconnect between the musical sources, and what dominates our perception of output; a granular texture that evolves in time from (usually) a short source that may remain unidentified (or forgotten), and a rhythmic pattern which is engaging because of its particular timbral properties, rather than an understanding of the significance of the source itself. In such cases, the perception of where a piece of music 'fits' in terms of '... zones of influence and hybridity...' is more a consequence of the juxtaposition of underlying technological structures of practice than a reflection of those aesthetic preferences embedded in the musical source materials.

Recent technological advances have enabled a much wider range of processes to be executed and controlled in real-time and this has had a significant impact on practice[18]. However, whilst it might be argued that the level of 'interactivity' of much contemporary musical practice distinguishes it from earlier fixed media forms, this may also be seen as reflective of a more general trend of increasing consumer choice and control that is largely independent of any specific change in musical aesthetics. The shift from fixed to fluid musical outcomes, that prioritises broader improvisational skills and interactivity above specific instrumental or other technical expertise, also reflects the need for a more efficient use of time as a resource, within a complex and ever-accelerating dissemination culture, as much as it does any form of creative or technological 'progress'.

For this reason, it is unsurprising to see a convergence of performance contexts and compositional techniques in technology-based art. In the case of music with its roots in popular EDM, this arises from both the democratising effect that recent

technology has had on production and performance, and the continued bifurcation of genre, leading to events that are often highly-specialised (and consequently smaller in mass appeal). In the case of practitioners with roots in the art music tradition, where performance has been, historically, located in the concert hall, similar changes in performance and dissemination strategies arise not only from the diverse nature of compositional 'research' but also from shifts in the socio-economic environment, where earlier models of musical production for the contemporary equivalent of the concert hall are simply no longer viable[19]. This results not only in a further convergence in the type of venue where performances might take place, but also in the likelihood that the form of encountering such music - despite the possibility of live-streaming - is through the fixed recorded medium, regardless of whether or not the 'original' was improvised or otherwise 'interactive'. This paradox gives both constituencies an opportunity to exploit ambiguities in what might be understood as a recording of a 'live' performance, as opposed to a studio contrivance[20]. Such transformations have only increased the likely range of music that young, creative artists, particularly in an urban environment, will encounter as part of their 'synchronous' musical environment. The locations of musical experience may not be identical, but they will at least be recognisable as part of the same integrated (and leveled) cultural landscape. This convergence of performer skill set and the economic, technological and geographical contexts of performance contributes to the further erosion of musical register and, therefore, dialect.

Part 2: Motivations and the importance of "Biography"

In his famous essay *Music Practica* Roland Barthes (1977) refers to 'two musics' '... the music one listens to and the music one plays'. He goes on to explain that these musics are '... two totally different arts - each with its own history, its own sociology and its own aesthetics, its own erotic...' (p.149). He also laments the *desire* of the amateur in the traditional sense, and contrasts this with the specialist or 'technician'

who ultimately '... relieves the listener of all activity ... and abolishes in the sphere of music the very notion of *doing*' (p. 150). Like many writers of the period (and beyond) he proceeds to lay the blame for this (not entirely welcome) transformation firmly at the door of Beethoven, where 'musical art' is subsumed within a utopian process that excludes the need or possibility of *playing*.

For composers (a designation becoming increasingly anachronistic in the more traditional sense) we can add the 'music we compose' to this list, as well as its relationship to the music that we study (or have studied). The way that <u>this</u> music relates to the music that we listen to and the music that we might play will vary from composer to composer. However, it is still highly likely that these categories will retain, in Barthes' words, their own history, sociology and aesthetics[21]. Perhaps one of the reasons why there is such an apparent enthusiasm for the hybridisation of musical elements and methodologies as part of conscious *projects* - particularly in those areas that embrace technology - is a desire to move these categories somewhat closer together, either for reasons of artistic satisfaction or out of frustration or unease that such boundaries exist in the first place, and that to participate in such an increasingly anachronistic and stratified practice is to condone its essential divisiveness.

From the composer's perspective, the conscious generation of hybrid forms can be indicative of a desire to reconcile different competing cultural interests in the broader context of a reduction in the cultural cachet of institution-led high art practice. This is not so much a question of a compromised aesthetic, but rather a direct consequence of the combined effect of ready access to an unprecedented range of musical material (in 'ready-for-use' digital formats); the ubiquitous use of sampling technologies and the relative invisibility of contemporary art music - especially when compared to the relative popularity and interest enjoyed by its counterparts in the visual arts and architecture[22]. At an individual level, it is not surprising if creative tensions arise where a deep-rooted affection is held for musics that have, historically, been viewed as occupying a rather different position to the 'specialist', 'technical'

music (to which Barthes refers) and which tend to form the backbone of formal training or self-study.

As indicated in part 1 of this paper, influence travels in both directions; interestingly, there are many examples where popular music producers directly reference the work of composers of the twentieth-century modernist canon in terms of influence, technique and sound world (if not organisational methodology). This can function as a means of demonstrating continuity and/or authority - by linking their work to the broader historical traditions of music created through technology – or, alternatively, as a way of drawing attention to what are perceived as obsolete and/or irrelevant boundaries[23].

The relationship between the music that we study and the music that we compose is often quite complex. It is common for students (as well as staff) in an academic environment to draw clear distinctions between 'academic' music and all other forms that they otherwise enjoy or play. Despite any formal definitions, the way in which music might be recognised as 'academic' varies considerably but it usually involves 'it' being the object of study, usually in the context of understanding its historical significance in terms of technical or aesthetic innovation; in particular, its capacity to change how we might think about music and to stimulate our ability to conceive 'possible' musics. The way in which this music characteristically interrogates the boundaries that contain the established musical practice of its period leads it to be regarded as a form of academic research, rather than 'just' creative practice. Consequently, in academic institutions where 'research' is a pre-requisite for different types of funding, innovation, whether in the form of compositional or production techniques, can be prioritised, especially in it's use of innovative technologies.

This can result in the production of music that has a low conventional reception base but that is highly regarded within the academic community, as an example of 'music as critique', or as an exemplar of the potential of new tools that have been

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designed to enable such production, even if they prove to be short-lived. That the notion of 'music as research' aligns itself so well with a modernist perspective of the linear accretion of knowledge only increases the distance between music that might be regarded as 'academic' and most other musical experiences that we might choose to enjoy. However, the process where certain musical outputs are elevated (or condemned) in this way does not, in any way, reflect upon their 'quality' or their capacity to produce an emotional response or cultural insight that is either stimulating or enriching. *Academic* music is just as much a victim of its designation as it is a beneficiary.

Consequently, in institutions, we often spend a considerable amount of time discussing music that might have a historically recognised 'authority', but has a decreasing presence and impact on the cultural landscape in general (as does all music that requires the sacrifice of concert attendance). In this way, we become vulnerable to accusations of perpetrating a form of deception with regard to the 'importance' or 'significance' of such repertoire in the context of any generally understood meaning of that term[24]. In her article 'Postmodernism, Narrativity and the art of memory', Jann Pasler provides a broad definition of narrativity as that '... mutually agreed upon quality, normally pre-exisiting in the culture, that allows the composer to plug into the listener's mind, to engage his or her memory.' (Pasler, 1993, p.5). It is exactly this lack of collective 'memory' in respect of recent 'academic' music that renders its survival vulnerable, and which impedes in-depth discussion of its meanings. Whilst this body of repertoire might be highly-valued, it is hardly surprising if composers seek to direct the considerable skills and understanding that are gleaned from examining such practice to engagement with musical materials to which they have a greater direct emotional attachment and to which the memory of the listener might be more easily "engaged". Regrettably, as time passes and the smallest ripples of cultural impact become almost imperceptible, it becomes more and more difficult to assert uncritically the significance of a body of music that does not

necessarily exhibit the "mutually agreed" conventions required for optimal listener

engagement, and which relies for its survival on the recursive argument that it is

'worthy of study within institutions'.

The temptation to dispense entirely with the burden of a perceived historically-

imposed aesthetic frameworks increases where the realities of creative working

involve a far wider range of forms of engagement with audiences than even a 1960s

paradigm would suggest (via new media, the internet etc.). However, recognising such

transformations, for those who have witnessed them at first-hand, may lead to a sense

of insecurity and other emotional costs, if it generates a sense of 'cutting loose' from

certain entrenched historical narratives that have become cornerstones of teaching

and research programmes. However, the need for such recognition resonates with

Kerman's view (in respect of music analysis) that '... a more comprehensive

"humane", ... and practical criticism of music can and should be developed.' (Kerman,

1980, p.331). Accepting that composition is also a form of criticism, it could be argued

that, from the perspective of formal study, an interest in hybrid forms, with their ability

to engage the wider cultural memory of the listener, is one possible response to the

inherent tensions present within the study and practice of contemporary art music.

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[1] Interestingly, despite historical differences in attitude regarding the work as commodity, both make extensive use of social media, both at the core and at the fringes, to raise awareness of activities and also as an effective dissemination tool. The flexibility of social media channels also reflects constant changes in the relationship between 'live' performance and recordings insomuch as one promotes the existence of the other. Similarly, choice of distribution mode allows nuanced relationships between artists and underlying economic models to be communicated as these modes, in themselves, function as cultural signifiers, for example, the distribution of Thom Yorke's 'Tomorrow's little boxes' via peer-to-peer filesharing using the BitTorrent protocol (NME 2014).

[2] For example, Rob Ratcliffe's striking 2009 work *Planet of the Shapes* uses samples from the late 20th-century modernist repertoire alongside '... breakbeat-driven EDM' as polarities that represent 'human' and 'synthetic' elements. Whilst the exploration of this continuum primarily concerns the 'dehumanising' of recorded performance in certain EDM techniques its impact in a concert hall environment often appears to extend beyond the purely musical into an examination and critique of the conventions of different performance spaces.

[3] These differences stem from the origins of the two genres; electroacoustic music can be historically characterised as technology-driven western art music with its roots in the broad sweep of institutionalised musical modernism whereas EDM represents a more localised range of popular electronic music whose origins can be traced to a variety of European and Afro-American genres (techno, Hip Hop etc.).

[4] In order for the increased power of domestic 'prosumer' computing and audio equipment to have a democratising effect on music production it also needs to act as a host for specialised software that is specifically associated with iconic sounds and methodologies. One example, in the case of electroacoustic music was the *Composers Desk-top Project* (CDP) which, from 1986, sought to make available software that had been developed in institutions – notable GRM (Groupes de Researches Musicales) and IRCAM available on the Atari ST. Thankfully, their valuable work continues (See http://www.composersdesktop.com/index.html).

[5] Whereas this is partly due to an aesthetic shift that prioritises 'interactivity' as a mode of performance (as well as a mode of consumption), it also reflects a resurfacing of familiar tensions between the underlying politics of improvisation as opposed to the 'imposition' of a score. It also provides further evidence of the commodification of time within prevailing economic models where the time taken to learn a complex score by a competent performer is rarely viable.

[6] The causes and consequences of disjunctions between an individual's preferred modes of creative expression and the research priorities of an academic discipline can be viewed from a variety of perspectives. For example, the tension between mapping the creative agenda of individual composers and sound artists in academia to the changing priorities of the research framework in which they contractually operate is extensively critiqued by John Croft (2015) in his article *COMPOSITION IS NOT RESEARCH* (Tempo, 69, pp 6-11). The way in which 'knowledge accumulation' and such institutionalised research priorities evolve in a broader scientific context is discussed in Azoulay, Pierre, Christian Fons-Rosen, and Joshua S. Graff Zivin. *Does science advance one funeral at a time?* No. w21788. National Bureau of Economic Research, 2015. This paper

focuses on how research in the life sciences evolves and, in particular, whether the direction of this evolution is '… according to autonomous laws, or … individuals, incentives and institutions' (p.1). Whilst focusing on scientific evolution using the tools of micro-economics, it draws particular attention to the importance of 'superstar' researchers who, in commanding an intellectual space can both delay, as well as advance, the acceptance of new ideas (and practice). For example, it demonstrates that 'The authors driving the growth in publication activity [in the star's research subfield] following a star's death are largely outsiders.' (p.22). This indicates that acceptance of new ideas is as much a function of contesting the voids arising from unexpectedly diminished power structures as it is one of purely intellectual merit – an observation that might also be applied to many areas of creative practice.

[7] Specific biographical detail was an important element of early hip-hop, for example, NWA's debut album *Straight Outa Compton* (1988)*. More recently, tracks by 'Grime' artists, e.g. Devlin's *Community Outcast* (video, 2009) are specific in both their language inflections and social observation (See: http://officialdevlin.com/ [Accessed 3 November 2014). In both cases, and whilst acknowledging the importance of the poetic aspects of rap, the communication of nuanced urban geography is enabled by a co-operative, rather than 'specialist' use of technology.

[8] PRS for Music has a framework for the registration and notification of new works that contain samples as well as allocating royalties to members (other than the author of the new work) who register an interest as a consequence of having been 'sampled' (June 2012).

[9] Tim Whelan from Transglobal Underground – an eclectic and innovative London-based collective that is sometimes termed 'world fusion' makes the following interesting observation regarding the combination of apparently disparate musical elements when discussing the band's history, specifically those critical responses to their first album *Dream of 100 Nations* that interpreted their work as attempting to '… make music from around the world.' Whelan responds that '… we were making music that we were hearing where we were… it was just like you get in a car … just drive around and around London and hear everything … that's what the records were coming out from'.

[10] 'Live-coding' is, in itself, a form of hybridisation in its approach to the use of technology in that it combines a functional interactive activity – computer programming in real-time – with another interactive activity, namely improvised music. The causal link between the two interactive domains is often somewhat fuzzy, but that's no problem, because any deficiencies in virtuosity in the sonic arena are balanced by a complementary virtuosity in the area of programming. The combining of two unconnected skill-sets as a pre-requisite to participation is also an example of a form of hybridisation and reflects the need for multiple skillsets in most walks of life, not just in creative practice. However, what is highly significant is that both aspects require the exploration of 'virtual' spaces – primarily organisational and syntactical in the case of programming and the ever present need to control temporal perception in the case of music. 'Live-coding' therefore can be seen as a reflection of broader transformations in work-flows in most complex organisational environments that form part of contemporary culture (See: Wilson, S. (et al.) *Free as Beer: Some Explorations into Structured Improvisation Using Networked Live-Coding Systems*).

[11] For example, Jon Weinel's PhD submission focused on using Altered States of Consciousness (ASCs) to inform the design of sonic material and musical structures as a parallel to the use of hallucinogenic plants and drugs to undergo '… visionary journeys'. (See http://www.jonweinel.com/phd/ [Accessed 3 November 2014]).

[12] Specifically, Smalley's investigations into *Spectro-Morphology* (from 1986) and Schaeffer's approach to musical typology and perception in *Le Solfège de l'Objet Sonore* (1967).

[13] The elements referred to here are usually associated with harmony such as synthetic strings and other transparent 'factory pre-sets'. This is particularly noticeable in genres such as UK grime where these elements confirm the 'DIY' nature of the production (or at least reference it). The combination of this sometimes merely 'functional' music with incisive social commentary becomes, over time, just another part of a complex musical and social identity.

[14] Techniques whereby two signals are combined to form a third are central to various DSP functions associated with the composition of musical materials in electronic music. For example, the common (and historically important) technique of *vocoding* where - in the context of musical applications - a voice modulator signal is used to control the timbral characteristics of a carrier (e.g. synthesiser etc.) by way of time-varying filters, or, the use of the technique of *convolution* to (e.g.) simulate the reverberation characteristics of different environments. This approach also extends to the use of specialist software to 're-voice' elements of breakbeats in EDM.

15 One example is the case of *Post-rock*, a term first coined by Simon Reynolds in 1995. This term relates to predominantly instrumental music that uses augmented instrumentation in an abandonment of '... the verse-chorus-verse structure in favour of the soundscape.' (Reynolds: 358). According to Reynolds, the 'dramatic mechanisms' of rock are replaced with a series of 'plateau-like' states relating to sensation rather than narratives relating to '"identification" and "catharsis"'. This musical approach has much in common with both ambient music and different forms of electroacoustic music in which familiar sound sources are transformed and reconfigured into new narrative structured that may create unexpected and unfamiliar emotional responses. Whilst there is much more to this than merely 'rearranging the musical furniture' it demonstrates clearly the way in which it is necessary for both timbre and narrative trajectory to combine in order to signify genre conventions irrespective of an understanding of lyrical content.

16 Rob Ratcliffe's work *Planet of the Shapes* referred to above uses elements clearly delineated by their human and non-human agency. However, transformations through sound processing allow a continuum to be established part of the compositional strategy as well as juxtaposition of these elements.

17 Recursive use of signal processing tools – a sort of latter day version of Alvin Lucier's *I am Sitting in a Room* from 1969 (See (e.g.): https://www.youtube.com/watch?v=2jU9mJbJsQ8 [Accessed 3 November 2014]) - can provide a musical outcome in which the output of recursive transformation becomes the musical material itself – Lucier sitting in a room.

18 The use of different 'controllers' that are essentially extensions of the body have their place in different genres of music that foreground technology. For example, Rajmil Fischman's 'manual actions expressive system' (MAES) provides a composition environment using a 'glove' in which programmable gestures derived from '... tracking and analysing hand motion and finger bend...' allow performers to use '... natural actions from our daily use of the hands (e.g. the physical movement associated with hitting and shaking)' to create musical gestures with subtle embedded meanings that parallel fine-grained motor skills (Fischman, 2013). Similarly, Imogen Heap's work using gloves, in live performance is '... an extension of her "no smoke and mirrors" approach when interacting with her audience.' It replaces earlier systems that used radio mics to control equipment and is aimed at making the link between (physical) cause and (musical) effect more transparent to an audience: 'So often, tech set-ups on stage create soundscapes disconnected from the audience, who are left without an idea of how it is al happening.' (Heap, 2012). In both cases, the *performability* of the system, and the way in which it links into existing motor skills, is aimed at enhancing audience understanding of the connection between the performer and changes that take place in the sonic environment. Interestingly, all such enterprises are only fully appreciated in a live performance context, which is somewhat at variance with broader trends in dissemination.

19 A report published in August 2014 by the organisation *Sound and Music* concluded that for 99% or working composers, the average annual income from commissions was £2,217. However, the report also included a number of exceptional commission fees of £60k and above, which only demonstrates that the distribution of income in composition broadly reflects the wider economic context that it inhabits.

20 An early example of this approach that draws on the traditions of popular music(jazz) and the emerging traditions of electronic art music is Miles Davis' recordings from the late 1960s and 1970s including *Bitches Brew* and *On the Corner*. Miles' producer Teo Macero (1926-2008) who had worked with him consistently throughout his career had been educated at Juilliard and was acquainted with the work of Edgard Varèse, as well as with the composer personally. In these recordings from the 1970s '... Davis and Macero appeared to merge into a single composer - but one operating in a post-performance world, recomposing with frequently brilliant improvised music already on the tape.' (Fordham, 2008).

21 For example, Sir Harrison Birtwistle entered the Royal Manchester College of Music as a clarinet player, having also played in the North East Lancashire Military band as a teenager. However, in a recent TV interview during the 2014 Proms season he described his motivation in composing very much in terms of 'hearing music that doesn't exist'.

22 This situation is even more surprising given the degree to which elaborate, and often abstract, sound design permeates film and games audio.

23 An acknowledged link to composers, specifically Stockhausen, often comes in the context of the use of 'noise' or unusual sound sources, even if these are used to articulate fairly conventional rhythmic patterns. For example, the American duo *Matmos* who are associated with the genres of Intelligent Dance Music (IDM) and 'Glitch' (among others) describe their approach as 'Marrying the conceptual tactics and noisy textures of object-based *musique concrete* to a rhythmic matrix rooted in electronic pop music...' (See: http://vague-terrain.com/bio/).

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[24] Irrespective of his otherwise problematic analysis, Milton Babbitt identified this seemingly inevitable outcome of 'academic music' along with its 'resistance to commodification' (and consequent diminished popularity) and the 'composer as anachronism' in the opening paragraph of his now infamous article of 1958, 'Who Cares if You Listen?'