

Relational Ontologies and Social Forms in Digital Music: A Response to Simon Emmerson

Chapter for the volume edited by Deniz Peters from the *Bodily Expression in Electronic Music* conference, Graz, November 5-7 2009

Georgina Born
University of Oxford

Simon Emmerson's evocative paper can be understood in part as problematising – like recent post-humanist writing on digital culture and new media -- the assumption of a radical dualism between humans and machines (or media). Citing the anthropologist Tim Ingold, he advocates an overcoming of dualistic thought and argues that 'living' is a behaviour manifest in the co-evolution of human or organism and environment. With reference to Iannis Xenakis and Murray Schafer, Emmerson magnifies these ideas on to the plane of sonic art and music, such that the musician can be reconceived as 'a kind of shaman': as one who does not so much represent the world as reveal and (re-)animate it.¹ At the same time he considers a shift in what the term 'live' has meant in regard to musical performance; noting that it used to refer to experiences of music that are 'embodied and essentially human', Emmerson proposes instead a model of 'living presence' in musical performance, one that incorporates the relations between musicians and technologies.

In many ways Emmerson's ideas echo the interest in issues of embodiment, materiality, presence, and the haptic that is currently raging across the humanities -- from the work of Vivian Sobchak and Laura Marks in cinema studies,² to that of Hans Ulrich Gumbrecht in literary theory,³ to that of Mark Hansen in new media theory.⁴ All of these writers find it necessary to move beyond merely semantic, meaning-based accounts of media, or in cinema an exclusive focus on visual experience; all address themselves to (post-) phenomenological ideas in order to transcend dualisms of subject and object, mind and body by uncovering the somatic, sensory, object-al nature of mediated cultural experience.⁵ Marks, for example, analyses the 'postcolonial situation of intercultural cinema', advocating a theory of haptic visuality or sensory representation.⁶ She states that 'the elements of an embodied response to cinema, the response in terms of touch, smell, rhythm, and other bodily perceptions, have until recently been considered "excessive" and not amenable to analysis'.⁷ Proposing that they can be analyzed, she claims that 'our experience of cinema is mimetic, or an experience of bodily similarity to the audiovisual images we take in. Cinema is not merely a transmitter of signs; it bears witness to an object and transfers the presence of that object to viewers'.⁸

More equivocally, Gumbrecht sets out to challenge the 'institutionalized tradition according to which interpretation, that is, the identification and/or attribution of meaning, is the core practice... of the humanities'.⁹ Instead, he intends to rebalance the attention of the humanities towards questions of materiality, the 'nonhermeneutic', and presence, arguing that we should 'conceive of aesthetic experience as an oscillation (and sometimes

an interference) between “presence effects” and “meaning effects”¹⁰. Drawing inspiration from sources as distinctive as Heidegger’s concept of ‘being-in-the-world’, which, Gumbrecht argues, ‘tries to recuperate the presence components in our relationship to the world’,¹¹ and Judith Butler’s concern with the materiality of the body and with the processes of materialization over time that she encapsulates with her idea of performance, Gumbrecht stresses the paradoxical potential of developing ‘concepts that would allow us to point to what is irreversibly nonconceptual in our lives’.¹²

Similar concerns also characterise another influential theoretical development: what is called the affective turn, a stream of thought that can be traced back through Deleuze and Guattari to Bergson and Spinoza. In the words of Patricia Ticineto Clough, it treats ‘affectivity as a substrate of potential bodily responses, often autonomic responses, in excess of consciousness.... Affect refers generally to bodily capacities to affect and be affected or the augmentation or diminution of a body’s capacity to act, to engage, and to connect’.¹³ Notable is the cultivation by affect theory of what, after Spinoza, Michael Hardt calls a ‘new ontology of the human’ focused on the relations between mind and body, reason and passion.¹⁴ This is an ontology that suspends any assumption of the primacy of the first of these dualisms by posing the relation between the two terms as a problem, a correspondence or mutuality that cannot be known in advance. Such a correspondence exists also between the power to act and the power to be affected; indeed in this regard it ‘applies equally to the mind and the body: the mind’s power to think corresponds to its receptivity to external ideas; and the body’s power to act corresponds to its receptivity to other bodies’ and to the environment.¹⁵ What is proposed, then, is a relational ontology, one that is concerned with the mutual mediation of the human and the environmental, whether that environment is material or immaterial, organic or inorganic, expressive or technological.

In light of this brief overview of currents in the humanities and social theory, currents that might be generative when taken to the focal concerns of the Bodily Expression in Electronic Music (BEEM) research project, I want to make one critical point in this paper. My contention is that, while the interest in the materiality and corporeality of cultural and media practices -- including musical practices -- is surely welcome, and while the development of relational ontologies is also highly fruitful, these approaches risk neglecting the social dimensions of such practices; and moreover that music poses most acutely the need to take into account, in analysing the nature of cultural practice and aesthetic experience, not only the corporeal and material, but also, crucially, the social. The body in these accounts is, then, invariably *de-socialised* -- as though the boundary between individual and (social) environment was absolute, and as though the operations of the body can be understood without reference to that environment.

If we take affect theory to exemplify this problem: although it is taken to be foundational that ‘affect is not “presocial”’,¹⁶ the ‘social’ is conceptualised in this area through a bouncing between, on the one hand, the micro-level of individual consciousness and memory and, on the other, macro-processes of history. Thus, Clough enjoins us to think about affect ‘in terms of the historical changes in Western capitalist societies... [and particularly] the ongoing transformation of relations of power across international

organizations, regions, nations, states, economies, and private and public spheres.... [These changes are] indicative of the changing global processes of accumulating capital and employing labour power through the deployment of technoscience to reach beyond the limitations of the human in experimentation with the structure and organisation of the human body'.¹⁷ While such a critical stance on the analysis of social processes in contemporary cultural and technological formations is salutary, the social remains conceptually abstract and non-specific, and overly circumscribed by a post-Marxist orientation. In this way affect theory occludes other dimensions of the social immanent in cultural and musical practices that also demand to be acknowledged. Indeed, compounding the continuing (if ambivalent) enlargement of phenomenological thought that is such a marked feature of corporeal and materialist directions in the humanities, I will suggest that it is productive to formulate a social phenomenology that can take cognisance of the several modalities of the social to which music and other cultural practices, particularly the performance arts, require us to attend, and moreover of the capacity of music and other cultural practices to generate new forms and experiences of the social.

Returning to Emerson, it is clear that he is travelling in this broad direction of thought. His concern with the social dimensions of musical practice is obvious, first, in the way that in his model of 'living presence' in musical performance he conceives of his 'third world', that of 'personal and social presence', as encompassing the other two 'worlds' (of 'physical presence' and 'psychological presence').¹⁸ It is also apparent in his extension of Turing's Imitation Game, which he refracts through an analysis of musical engagements between humans, and between humans and machines. Emerson raises the challenging idea that if the sonic musical results are identical, this serves to justify placing the human-machine improvisation on the same plane as the inter-subjective human musical encounter. One referent here is George Lewis's musical system, *Voyager*, to which I will return. But Emerson then goes further, implicitly questioning a strong post-humanism: drawing on the ideas of Christopher Small, he contends that if we conceive of a musical event as more than its sonic existence, such that 'the meaning of the performance is *in large part* constituted by the [social] relationships of its performers', then our analysis of the musical Turing game will change: the same musical event cannot be said to have occurred. This is a perspective with which I am sympathetic, and which -- stripped of the romantic communalism and organicism of Small's vision of music's socialities -- has been central to my work. In my ethnographic study of the computer music institute, IRCAM, the same perspective led me to expand the 'musical object' to encompass the entire universe of social mediations that together composed IRCAM's music: that is to say, it encompassed IRCAM's institutional division of labour -- those dozens of technicians, secretaries and receptionists, as well the software developers, hardware engineers and psychoacousticians, who together formed the social environment mobilised or called into being by IRCAM's musical practices and outputs.¹⁹

Following Emerson's lead, I therefore situate my remarks with reference to the current interest in materialist and relational ontologies as they address not just the relations between music and technology, but the environment, or the world. I will approach this by extending the earlier discussion of relational ontologies to two recent, comparable

contributions from social theory -- actor network theory, and the renewed interest in vitalism -- in order to assess how well they fare in addressing these issues. Specifically, I want to compare what each theory accomplishes when taken to a contemporary digital musical experiment.

***Voyager* meets actor network theory**

Conceived as a methodology, Bruno Latour's actor network theory, which he also describes as a 'sociology of associations',²⁰ is most famous for its insistence on the need to conceive of the world in terms of networks of human and non-human actors, themselves linked via relations that are both material and semiotic. Latour advocates what he calls a flat ontology in which no *a priori* assumption is made that some actors or relations are bigger, more effective or more powerful than others. Relations between actors are constantly in process, performed, made and remade through practices that effect chains of associations, forming open networks that may be strong or weak. Moreover the human and non-human actors composing the network exist or have certain properties by virtue not of their own innate or intrinsic qualities as entities, but through their mutual interrelations, interferences and mediations – understood as transformative relations. In this sense, as Annemarie Mol puts it, reality is 'enacted' through practices in which subjects and objects mix and merge.²¹

In my view, Latour's theory amounts to a highly productive provocation. I am myself a sceptic regarding actor network theory's adequacy for dealing analytically with the interrelated problems of scale, influence and power, the relative endurance or instability of networks, and thus the questions of historicity and temporality that it brackets with its flat ontology.²² Moreover, Latour banishes any attempt to theorise the social other than as the outcome of his chains of associations, a stance that ignores the performative ways in which concepts of the social, as well as other closely linked concepts such as social class and social identity, have been folded into historical process to self-fulfilling effect. However, actor network theory does seem to elucidate remarkably well aspects of such musical assemblages as George Lewis's *Voyager*, for which an ontology of the machine as actor or creative agent is central. Lewis is an African-American composer, philosopher and technologist; he combines in his person two American traditions: that of experimental electronic music and that of the Chicago-based Association for the Advancement of Creative Musicians, a movement committed to improvisation as at once a social and musical form.²³ *Voyager* is designed by Lewis to be a 'non-hierarchical, interactive musical environment that privileges improvisation. Improvisers engage in dialogue with a computer-driven, interactive "virtual improvising orchestra". The computer program analyses a human improviser's performance in real-time, using that analysis to guide an improvisation program that generates complex responses and independent musical behaviour arising from its internal processes'.²⁴ Lewis therefore understands *Voyager* as a performance-based system that endows the personal computer with interactive agency, while favouring a certain musical aesthetic. Indeed Lewis's philosophy is that 'Notions about the nature and function of music are embedded in the structure of software-based music systems and... interactions with these systems tend to reveal characteristics of the community of thought and culture that produced them.'²⁵

With *Voyager*, Lewis intends to deconstruct prevailing orthodoxies both of the universal, culturally neutral computer system and of human-computer interaction. He developed his stance on these issues through earlier residencies at IRCAM, on the basis of which he conceives of his present work as embodying a critical response to IRCAM's high modernist paradigm, manifest as this is in the philosophies, technologies, scientific research and music issuing from the institution. Instead of an instrumental, 'information retrieval' model of interactivity, Lewis favours one that conceives of human-computer relations in terms of dialogical operations between two improvising subjectivities; he portrays this as 'an improvisational, subject-subject model of discourse, rather than a stimulus-response set-up'. The computer is therefore endowed with a kind of musical personality and autonomy: it 'does not depend on real-time human input to generate music;... the program exhibits generative behaviour independently of the improviser'.²⁶

Musically, a performance of *Voyager* exhibits multiple parallel streams of music emanating from computer and humans. Moreover the system's simulated subjectivity is designed to emulate African-American aesthetics. Lewis calls this an 'aesthetics of multidominance', drawing attention in this way to 'the multiple use of colours, [textures, shapes] in intense degrees', and in music to the use of 'multidominant rhythmic and melodic elements'. His concept of multidominance is derived from the AACM's practice of multi-instrumentalism, in which players were expected to perform on a number of instruments so as to achieve great timbral diversity and a range of musical colours – an 'extreme multiplicity of voices embedded in a highly collective ensemble orientation'. On the question of the computer's aesthetic subjectivity, Lewis comments:

In the context of improvised musics that exhibit strong influences from African-American ways of music-making,... one's "own sound" becomes a carrier for history and cultural identity.... "Sound" becomes identifiable with the expression of personality,... the assumption of responsibility and an encounter with history, memory and identity. Part of the task of constructing *Voyager* consisted of providing the program with its "own sound",... a kind of technology-mediated animism.²⁷

For Lewis, such animism may be linked to the trope, present in several African cultures, of musical performance as a mode of communication between two intelligences. *Voyager* therefore amounts to an improvising musical assemblage that 'incorporates a dialogic imagination'; the mode of interactivity that it embodies is grounded on 'negotiation, difference, partial perspective'.²⁸ In a reflexive and parodic anthropomorphism, Lewis has designed into the system a quasi-human agency and subjectivity replete with expressive powers, an aesthetic imagination, and a capacity for intersubjective negotiation, while all of these are taken to be fuelled by a machinic 'experience' of alterity. Lewis has modelled a dialogical musical-social-technological assemblage, one that embodies the 'anti-authoritarian impulse in improvisation'. *Voyager* is a de-instrumentalised machine; it is also actor network theory musicalised.

Thought Conductor #2 meets vitalism

An alternative relational ontology is evident in the current preoccupation in anthropological and social theory with the vitalism of Bergson and Whitehead, centred on an anti-teleological ontology of process and becoming. On this basis Vikki Bell criticises Butler's theory of performativity for what Deleuze calls 'preformism', in which 'the real is thought to be the image of, or to resemble, the possible that it realises'. Following Deleuze, himself drawing on Bergson, Bell asks, 'Rather than a belief in unified and unifying structures, could we not begin with a belief in difference as the fundamental principle and differing as the ontological assumption?'²⁹ In Bergson's account, premised on the creativity and self-organisation of the material world, 'Evolution is a process of differentiation that has to be understood as mobile and open-ended.... [In turn] life is not passive adaptation to the activity of the external environment but is itself an active response, a differentiation.... Life rises to the provocations of the environment'.³⁰

Pursuing the self-organisation of matter, Bell cites Monica Greco's resonant idea -- which itself draws on Isabelle Stengers' work on complexity -- that our very participation in the world as human subjects both depends upon and elicits a response from that world. In this light Greco argues that the term complexity demands 'that we acknowledge *a sensitivity of the world to our interest in it, and to the forms in which this interest is expressed*'.³¹ Bell adds, 'In Bergson the process at stake is precisely the organism's relation to the environment, the elaboration of the environment's stimulus',³² while in Stengers' words, 'For Whitehead the ethos of an organism, its specific grasping together of aspects of its environment, cannot be dissociated from its ecology, that is from the way other organismsprehend and grasp together aspects of this organism, including the way they are themselves prehended and grasped by it. Each organism thus depends on what Whitehead calls "the patience of the environment".... Whitehead uses the beautiful word "infection" to describe the etho-ecological regime of reciprocal prehensions'.³³

Tim Ingold articulates a different Bergsonian critique of preformism when he problematises the modernist opposition in which creativity is held to be the antithesis of imitation.³⁴ Instead, he contends that mimesis and creativity are intimately bound in many cultures, that creativity is ubiquitous in cultural life, and that, given the radical contingency of the world, it is also necessarily improvisational. People 'are compelled to improvise, not because they are operating on the inside of an already established body of convention, but because no system of codes... can anticipate every possible circumstance.... The improvisational creativity of which we speak is that of a world... "always in the making"'.³⁵ Ingold employs Whitehead's concept of concrescence, inspired by Bergson, which suggests that 'Creativity... [lies] in that very movement of becoming by which the world, as it unfolds, continually surpasses itself'.³⁶

It should be apparent that these recent vitalisms acknowledge, more than Latour, the qualities of human agency as distinct from -- if also caught in a web of -- non-human, self-organising and prehending entities. Their focus is more on the existence and the nature of mutuality and co-evolution. Moreover they are attuned to temporality and process as inherent properties of organic and inorganic life. Yet these vitalist ontologies, while propitious, can go too far if adopted as an all-encompassing optic; for much is

occluded by the emphasis on what might be called a monotemporality of becoming, which can pre-empt investigation of the multiplicity of temporal processes and of differentiations, including the manifold differences between styles, degrees and rates of improvisatory creativity, and between more and less genre-bound or mimetic creative practices.³⁷

One musical assemblage which approaches a vitalist ontology of this kind is *Thought Conductor #2 (TC2)*: a performance installation designed by the artist-engineer Bruce Gilchrist in dialogue with software writer Johnny Bradley. Gilchrist's work exploits raw neurophysiological material to generate art and musical events. In *TC2* 'the signals generated by an individual hooked up to an electroencephalogram (EEG) are converted in real-time, via a relational database..., into a musical score'.³⁸ The score appears on computer monitors, ready to be played by a live string quartet. As the quartet plays the musical notes generated by the database's translation of the brain signals emitted by the wired-up individual, the musical sounds affect the neurophysiology of the wired-up individual, which in turn affects the derived EEG readings, the real-time musical score, and thus the string quartet's playing. To produce the relational database when preparing *TC2* for a performance in Oslo, Gilchrist and Bradley were resident for several weeks at a local studio where they collaborated with twelve local composers. Each composer was asked to sit and compose some new notated music for string quartet in real-time, and while they wrote their brain activity was recorded by an EEG. Following this process the EEG recording for each composer was linked to a midi version of his or her notated score and archived in the database.³⁹ The 'composerly' basis of the relational database thus in some ways mitigates the arbitrary nature of its translation of brainwave activity into musical notes, while at the same time highlighting and parodying this arbitrary translation.

In Mariam Fraser's insightful commentary, in *TC2* 'score and sound acquire an immediacy which is characteristic of neuroscientific imaging in general, but which in this specific context lends new meaning to the notion of a "live" performance. It is tempting therefore to suggest that *TC2* is a techno-scientific portrait that captures the inner kinetic melody of the individual who sits at its centre... [It augments] the cognitive scientific project by supplementing it with a richer (because aural) understanding of the self... [Yet] it is also a critique of the positivist scientific vision'. With reference to Bergson and Whitehead, Fraser suggests that '*TC2* is best understood in terms of the spatialisation and temporalisation of duration through processes of creative activity... [or] actualisation'.⁴⁰ But I would emphasise more the ways in which *TC2* performs music as a continuous process or circuit of mediations, mediations that demonstrate artfully, and performatively, the mutable boundaries, connections and translations between particular human bodies and subjectivities, scientific technologies and visual representations, musical literacies, performance gestures and expressive interpretations, musical sounds and human affective states. Brainwave patterns are converted into immaterial form (EEG readings, and thence digital signals), which are translated via the relational database into material and embodied form (the real-time musical score, and thence the quartet's playing), and from there into musical sound, and back into the responsive consciousness of the original, wired-up body. *TC2* exemplifies multiple transitions between (prehending and

prehended) subject and (prehending and prehended) object, or rather between subject (wired-up individual) becoming object (EEG readings, visual representations) and object (notated score, musical sound) becoming subject (string players' gestures, wired-up listener's affective response). *TC2* therefore amounts to, and humorously dramatises, a fluid circuit of unending translation -- or of the mutual negotiation of difference -- between subjects and objects, humans and technologies, a circuit in which human subject becomes object becomes musical sound becomes subject... *ad infinitum*. This circuit of translation is at the phenomenological core of all musical experience, but in *TC2* it begins, radically, with a non-expert human listener as involuntary initiator of a collective and distributed creative musical process that encompasses human and non-human, material and immaterial, and embodied and machinic actors.

Post-post-humanism: the social in musical-social-technological assemblages

The relational ontologies that I have outlined in discussing *Voyager* and *Thought Conductor #2* are potentially productive also when taken to the BEEM project. But I want to suggest that we should take a further conceptual step -- especially for music, but not limited to it -- and embrace what I will call a *post-post-humanism*. Like Emerson in his homage to Small, I find it impossible to evade the need to address, and theorise, music's manifold socialities, and indeed those of cultural production writ large; yet the ontologies to which I have just alluded, like the post-humanist accounts from the humanities with which I began, frankly fail to do this.

In the remainder of the article, I want to sketch my own position on theorising the social in musical assemblages. To begin with, musical sound -- as an aural, non-representational abstraction -- is never experienced as pure and autonomous. Whether it is perceptually focal or not, musical sound invariably comes to us not only embodied in the socialities of musical performance but inflected by other social processes and relations, infused by beliefs and discourses, embedded in physical and technological environments, and thus entangled in 'mixed realities'. In this way music poses conceptual challenges both for the analysis of its modes of signification, and for any attempt to develop a phenomenology of musical experience. A starting point in addressing such challenges is to acknowledge that music is both constituted by and itself engenders mediation. As we have seen, it entails relations between objects and subjects, human and non-human actors. It construes what I have called a musical assemblage:⁴¹ a network of relations between heterogeneous entities -- musical sounds, human and other subjects, practices and performances, discourses and representations, material and immaterial technologies, and spaces and locations -- while each of these elements in the constellation are themselves entangled in social mediation, in processes of human association and aggregation and in the relay of social relations. It follows that music is never singular but always a multiplicity; it exists only in and through its multiple and changing mediations, in the guise of such assemblages. There is no musical object -- sound, score, performance, technology -- that stands outside mediation; just as there is no musical subject that exists prior to an engagement with a musical object in the act of listening. Indeed for most listeners a significant musical experience is one in which the listener, entangled in a musical assemblage, feels and finds herself transformed. By producing particular engagements or

combustions between musical objects and subjects, musical experience can generate affect and create transformative effects. Such effects are fragile; they can never be assured. In this sense musical experience can take the form of an *event*: one that augurs transformations in the object-subject relation -- in the assemblage.

But it is the social mediation of music that has hitherto been most neglected conceptually; indeed I would suggest that the question of the social has been the constitutive outside of existing debates on mediated music. It is time that we grasped that this social is itself multiple, and extends beyond the socialities of musical performance. It demands a social phenomenology that registers the myriad forms of the social in music and their complex interrelations. Let me set out briefly my own working scheme. At base it is possible to identify four orders or planes of the social mediation of music. In the first order, music produces its own socialities – in performance, in musical ensembles and recording studios, in the musical division of labour, in listening. Second, music has powers to animate ‘imagined communities’, aggregating its listeners into virtual collectivities or publics based on musical and other identifications.⁴² Third, music inflects wider social relations, from the most abstract to the most intimate – music’s embodiment of stratified and hierarchical social relations, of the competitive accumulation of legitimacy, authority and social prestige, and of the structures of class, race, nation, gender and sexuality. And fourth, music is bound up in the large-scale social, cultural, economic and political processes that provide for its production and reproduction, whether elite or religious patronage, mercantile or industrial capitalism, public and subsidised cultural institutions, or late capitalism’s multi-polar cultural economy. In all four of these ways, as demonstrated by the rich empirical traditions of ethnomusicology and music sociology, music is immanently social. The point is that the four planes are not reducible to one another: the first and second amount to forms of sociality specifically engendered by musical practices; the third and fourth amount to the way in which music is mediated by, and entangled in, wider social relations, institutions and conditions. Non-linear and contingent relations -- of conditioning and affordance -- exist between the four orders; but there is also an autonomy operating in each of the four. Acknowledging the four begins to allow us to conceive of music’s entanglement with these distinctive orders of social aggregation and social relations, as well as the connections between them.

For the BEEM project, with its focus on embodiment in performance, the most obviously relevant of the four orders is the first, the sociality of musical performance, which amounts to the immediate social environment to which the performing body as prehending entity is attuned, just as co-performers and audience engage in reciprocal prehensions. Here we approach the musical intersubjectivities at the core of Alfred Schutz’s classic essay in social phenomenology, ‘Making music together’.⁴³ In this essay, Schutz portrays music as a paradigm of communicative social relations, a ‘mutual tuning-in relationship by which the “I” and “Thou” are experienced by both participants as a “We” in vivid presence’ and one that ‘originates in the possibility of living together simultaneously in specific dimensions of time’.⁴⁴ Music’s particular significance, for Schutz, is that our experience of music unfolds in ‘inner time’, Bergson’s *durée*, and while music also occurs in ‘outer’ or chronological time, inner and outer time are incommensurable. Moreover musical meaning is polythetic or non-conceptual: it can be

grasped only by immersing oneself in the ongoing flux of inner time.⁴⁵ On this basis Schutz discerns three modes of intersubjectivity in music. The first involves performer and listener, who are ‘living together through the same flux... while the musical process lasts’, simultaneously tracing ‘the polythetic steps by which the musical content articulates itself in inner time’.⁴⁶ The next involves composer and listener or performer: ‘Although separated by hundreds of years, the latter participates with quasi-simultaneity in the former’s stream of consciousness by performing with him step by step the ongoing articulation of his musical thought’.⁴⁷ Finally Schutz considers the intersubjective relations in a small ensemble, in which ‘each cop performer’s action is oriented not only by the composer’s thought and his relationship to the audience, but also reciprocally by the experiences in inner and outer time of his fellow’ performers.⁴⁸ The distinctive quality of this third form of intersubjectivity, according to Schutz, is that it entails sharing the other’s ‘stream of consciousness in immediacy’, as well as responding to facial expressions and bodily gestures face-to-face and in shared space.⁴⁹

I have cited this essay at length in order to show, first, how marginal to Schutz’s analysis of musical intersubjectivity, and thus his social phenomenology, are the corporeal and material; second, how limited is his conception of the scope of a social phenomenology of music, focused as it is primarily on structures of consciousness with a relatively confined attention to the sociality of musical performance; and third, how haunted by a romanticised metaphysics of musical co-presence are his writings on musical performance (as are Small’s writings). On this last point, my own response is to resist such a metaphysics by evading any sacralisation of musical co-presence and addressing the sociality of musical performance as a type of musical public that evidences its own autonomy, the specific qualities of which cannot be known in advance. Here I find it beneficial to open a dialogue with aspects of Hannah Arendt’s thought. This is appropriate since Arendt’s preferred idiom for conceptualising political action in the public realm was the performing arts. Her primary concern was with the systematic renewal, through action in the public realm, of political praxis.⁵⁰ For Arendt, plurality is the fundamental condition for such action, the essence of which is continuous, direct civic participation - a way of being-in-the-world.⁵¹ As Dana Villa explains, ‘No other human activity, according to Arendt, “produces” meaning as naturally as does action in the public realm... [Her] performance model... emphasizes the embeddedness of action in the “already existing web of human relationships”, while stressing its phenomenality, its need for an audience.... Arendt directly links the “meaning-creative” capacity of initiatory action to its “futility, boundlessness, and uncertainty of outcome”’,⁵² while insisting that the public realm is artificial and autonomous, an end in itself.

My contention, then, is that to theorise music’s present and historical condition we require an analytics of music’s social mediation, for which an Arendtian conception of the musical public formed by performance as autonomous, artificial and uncertain, and yet as embedded in existing social relations and institutions, is productive both descriptively and normatively. What Arendt makes possible is an approach to the nature of socio-musical relations which -- in contrast to Schutz, Small and other romanticised visions -- permits us to *de-idealise*, to analyse the actual nexus formed between the four orders of social mediation, and to grasp the under-determined, non-linear and

autonomous nature of those relations. These conceptual moves augur a non-idealising social phenomenology of music that can augment or supplement the existing concern with materiality and embodiment in digital, electronic and acoustic musical assemblages.

I want to end my remarks by returning to the BEEM conference, and specifically two of its musical elements, each of which exemplifies themes of this paper.

Informing the project *Embodied Generative Music (EGM)*, about which we heard from Gerhard Eckel and Deniz Peters, as well as witnessing a performance of *Bodyscapes*, one of its manifestations, was a history of developing aims within electronic and computer music. In particular, two aims concerned with enhancing and expanding compositional and performance possibilities appear to have been central to the genesis of *EGM*. The first was to develop the tools for interactive generative music, a kind of empirically responsive, algorithm-based system in which the composer can perform and hear certain aspects of the music during the very process in which it is being composed. The second aim was to (re)introduce stage-based performance and especially the performing human body into such interactive and generative electronic music. The result of these cumulative goals was a research project in which dancers were brought into the assemblage to shape the music in real time, and to introduce an ‘intense bodily resonance’, thus stimulating the audience’s ‘innate capacity to empathize with [the dancing body]’.⁵³ Through aesthetic experiments in performance over many months, in which dancers, musicians and generative system engaged mutually in learning each other’s expressive and musical repertoires and co-developing new possibilities, a set of intermedial performance gestures was created and codified. Most ambitiously, it became possible for the ‘dancer’s body [to] extend into the sound generation process in a way similar to the musician’s body extending into the [musical] instrument’.⁵⁴ This depended on the existence of a ‘highly refined kinaesthetic [or bodily] intelligence’ which is employed in expressive gestures that are ‘predictable to the body, not the mind’; as a consequence it is the dancer’s body that performs and drives the generative process.

At the same time the system is set in motion with a defined set of affordances which condition, or set limits to, how the dancer can respond. Yet the system also learns, via its human designers, from the dialogue with the dancer over time, such that, in Eckel’s words, ‘there are moments that are quite exquisite, and that’s what we are looking for!... We are collectively developing an instrument’. This ‘learning’ by the system from the dancer’s interactions with it is not immediate, but a relayed process in which the dancer becomes part of the compositional process – the composition of a co-evolving generative system or assemblage. In this sense *EGM* incarnates precisely ‘a sensitivity of the world to our interest in it’ (Greco): performance, compositional process and technological design process become integral to one another, effecting the co-evolution of each element of the assemblage. Importantly, this is an *empirical and inductive* process of co-evolution, one that unfolds throughout the period of research and rehearsal and which is oriented to achieving an intermedial aesthetic that crosses between dance and music.

However it is also worth addressing how the social enters into this assemblage. If *EGM*’s performance-compositional process succeeds in manifesting a quasi-vitalist ontology, and

if it also affords a novel, non-hierarchical, 'flat' division of musical labour -- that is to say, composition is distributed between various actors, and composition has no special authority over performance -- as an assemblage *EGM* nonetheless conjures up the orthodox social relations of the publicly-subsidised concert hall; it enjoins relatively passive audiences to engage in quiet and receptive obeisance to performer-composers active on their behalf. Moreover, if *Voyager* purposefully draws into the assemblage and encodes in its interactive music software the imagined community called into being by certain African-American aesthetics, and thus references the wider social relations of race and class, *EGM* does not conceive of itself as intervening in wider social relations of this or any other kind. It does not concern itself with revising or being inventive in relation to the ritualised social relations of the concert venue, nor music's institutional forms. The novel socialities of performance are therefore unmatched by invention in other orders of music's social mediation.

My second case from the BEEM conference comes from the rich presentation given by the composer, improviser and philosopher Pauline Oliveros, who gave a journey through her music. In particular she described an early transition. The transition was in the guise of a shift between a 1959 free improvisation performed by the trio of herself, Terry Riley and Loren Rush, which Oliveros described as probably the 'first ever group improvisation by Western art musicians', and her 1960 composition, *Sextet*. After we had heard the taped improvisation, Oliveros, preparing us for the *Sextet*, commented that 'it might well sound like it's improvised'. In the event what was fascinating were the subtle but palpable aesthetic differences between the two recordings, in that the first, the live improvisation, was audibly more suspended, fragile, hesitant and feelingful, while the second, the composed piece, was cruder in its performance and soundworld. When compared to the trio it lacked the equivalent sense of mutuality, co-creation and heightened listening among the three human players. In this way Oliveros demonstrated how the real time social and corporeal mutuality that is a unique feature of humanly-mediated free improvisation had powerfully audible musical effects. The musical and social, in this sense, were co-constitutive and aligned. Oliveros made evident the sounding sociality of improvised human musical performance, and this was apparent even in its recorded form: a social aesthetics. Put another way, and to return finally to vitalism: through the contrast between the two aesthetics, Oliveros showed unequivocally how the social relations of improvised performance exemplify in their *musical-aesthetic* effects the Whitehead-ian concern with reciprocal prehensions -- with how, as Stengers puts it, 'the ethos of an organism, its specific grasping together of aspects of its environment, cannot be dissociated from its ecology, that is from the way other organisms prehend and grasp together aspects of this organism, including the way they are themselves prehend and grasped by it'.

Notes

- ¹ Simon Emmerson, 'Live Electronic Music or Living Electronic Music?', this book, 2010, p. 4.
- ² Vivian Sobchack, *The Address of the Eye: Phenomenology and Film Experience*. Princeton: Princeton University Press 1992; Laura U. Marks. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*. Durham, NC: Duke University Press 2000.
- ³ Hans Ulrich Gumbrecht, *Production of Presence: What Meaning Cannot Convey*. Palo Alto, CA: Stanford University Press 2004.
- ⁴ Mark Hansen, *New Philosophy for New Media*. Cambridge, MA: MIT Press 2004.
- ⁵ I write (post-)phenomenological in order to point to the ambivalent attitude to phenomenology often evident in writing of this kind even when it draws on Deleuze, a critic of phenomenology. See, for example, Marks's discussion (2000: 145-153) of Sobchack's and her own indebtedness to Bergson and Merleau-Ponty, in which she criticises Deleuze's work on cinema: 'Deleuze says "Give me a body, then," but his interest is not in exploring how cinema relates to the bodies we have already been given' (p. 150).
- ⁶ Marks, *The Skin of the Film* (note 2), p. xiv.
- ⁷ Marks, *The Skin of the Film* (note 2), p. xvii.
- ⁸ Marks, *The Skin of the Film* (note 2), p. xvii.
- ⁹ Gumbrecht, *Production of Presence* (note 3), pp. 1-2.
- ¹⁰ Gumbrecht, *Production of Presence* (note 3), p. 2.
- ¹¹ Gumbrecht, *Production of Presence* (note 3), p. 66.
- ¹² Gumbrecht *Production of Presence* (note 3), p. 140.
- ¹³ Patricia Ticineto Clough Clough, 'Introduction.' In *The Affective Turn: Theorizing the Social*, ed. Patricia Ticineto Clough Clough and Jean Helley, Durham and London: Duke University Press 2007. pp. 1-33., pp. 1-2.
- ¹⁴ Michael Hardt, 'Foreword: What Affects Are Good For.' In *The Affective Turn: Theorizing the Social*, ed. Patricia Ticineto Clough Clough and Jean Helley, Durham and London: Duke University Press 2007. p. x.
- ¹⁵ Hardt, 'Foreword' (note 14), p. x.
- ¹⁶ Clough, 'Introduction' (note 13), p. 2.
- ¹⁷ Clough, 'Introduction' (note 13), p. 3.
- ¹⁸ Emmerson, 'Live Electronic Music...' (note 1), p. 2.
- ¹⁹ Georgina Born, *Rationalizing Culture: IRCAM, Boulez, and the Institutionalization of the Musical Avant-Garde*. Berkeley and London: University of California Press 1995.
- ²⁰ Bruno Latour, *Reassembling the Social: An Introduction to Actor Network Theory*. Oxford: Oxford University Press 2005.
- ²¹ Annemarie Mol, *The Body Multiple: Ontology in Medical Practice*. Durham, NC: Duke University Press 2002, p. 44.
- ²² For a similar criticism see Michael J. Fischer, 'Four Genealogies for a Recombinant Anthropology of Science and Technology', *Cultural Anthropology*, v. 22, 4 (2007), pp. 539-615, p. 561.
- ²³ George E. Lewis, *A Power Stronger Than Itself: The AACM and American Experimental Music*. Chicago: University of Chicago Press 2008.

-
- ²⁴ George E. Lewis, 'Too Many Notes: Computers, Complexity and Culture in *Voyager*', *Leonardo Music Journal*, v. 10 (2000), pp. 33-39.
- ²⁵ Lewis, 'Too Many Notes' (note 24), p. 1. The general theoretical point that computer software is encultured is made in Born, *Rationalizing Culture* (note 19), chapters VII, VIII and IX.
- ²⁶ Both quotations, Lewis, 'Too Many Notes' (note 24), p. 4.
- ²⁷ Lewis, 'Too Many Notes' (note 24), p. 6.
- ²⁸ Lewis, 'Too Many Notes' (note 24), p. 7 and p. 8.
- ²⁹ Vikki Bell, *Culture and Performance*. Oxford: Berg 2007, p. 106 and p. 105.
- ³⁰ Bell, *Culture and Performance* (note 29), p. 108.
- ³¹ Monica Greco, 'On the Vitality of Vitalism,' *Theory, Culture & Society*, v. 22, n. 1 (2005), pp. 15-27, p. 24, emphases added.
- ³² Bell, *Culture and Performance*, (note 29), p. 113.
- ³³ Isabelle Stengers, 'Whitehead and the Laws of Nature', paper presented at Goldsmiths' College, University of London, p. 13, cited in Bell 2007, pp. 113-4.
- ³⁴ Tim Ingold and Elizabeth Hallam, 'Creativity and Cultural Improvisation: An Introduction,' In *Creativity and Cultural Improvisation*, ed. Tim Ingold and Elizabeth Hallam, Oxford: Berg 2007, p. 2.
- ³⁵ Ingold, and Hallam, 'Creativity and Cultural Improvisation: An Introduction,' (note 34), p. 5 and pp. 2-3.
- ³⁶ Ingold, and Hallam, 'Creativity and Cultural Improvisation: An Introduction,' (note 34), p. 47.
- ³⁷ For an expanded commentary along these lines, see Georgina Born, 'On Tardean Relations: Temporality and Ethnography', in Matei Candea (ed.), *The Social After Gabriel Tarde: Debates and Assessments*, London and New York: Routledge 2010, especially pp. 244-6.
- ³⁸ Mariam Fraser, 'Making Music Matter,' *Theory, Culture and Society*, v. 22, n. 1 (2005), pp. 173-89, p. 173.
- ³⁹ From the account of *Thought Conductor* #2 at: <http://www.artemergent.org.uk/tc/tc2.html> (accessed 13 August 2010).
- ⁴⁰ Fraser, 'Making Music Matter' (note 38), pp. 173-4, p. 187.
- ⁴¹ On the concept of the musical assemblage, see G. Born, 'On musical mediation: Ontology, technology and creativity', *Twentieth Century Music*, 2, 1 (2005), which draws on Deleuze's reading of Foucault: Gilles Deleuze, *Foucault*, London: Athlone 1988; and Paul Rabinow, *Anthropos Today* Princeton: Princeton University Press 2003, chapter 3. For the most developed attempt to produce a theory of assemblages, see Manuel DeLanda, *A New Philosophy of Society: Assemblage Theory and Social Complexity*, London and New York: Continuum 2006. The approach I advocate here has certain similarities, but it departs strongly from DeLanda's attempt to develop a realist social ontology predicated on the analysis of social formations through an 'upward movement' (p. 6) of increasing scale and encompassment from interpersonal networks, through institutional organizations, to cities and nation states.
- ⁴² On the concept of musically imagined community, see Georgina Born, 'Afterword: Music Policy, Aesthetic and Social Difference', pp. 266-92 in Tony Bennett, Simon Frith, Lawrence Grossberg et al (eds), *Rock and Popular Music: Politics, Policies, Institutions* London, 1993, esp. pp. 281-288; and Georgina Born, 'IV: Music and the Representation of Sociocultural Identities' (pp. 31-37) and 'V: Techniques of the Musical Imaginary' (pp. 37-47) in 'Introduction: On Difference, Representation and Appropriation in music' (pp. 1-58), in Georgina Born and David Hesmondhalgh (eds.), *Western Music and Its Others: Difference, Representation and Appropriation in Music*. Berkeley and London: University of California Press 2000.
- ⁴³ Alfred Schutz, 'Making Music Together,' in *Collected Papers*, The Hague: Nijhoff 1971, pp. 159-78.

⁴⁴ Schutz, 'Making Music Together' (note 43), p. 161, p. 162.

⁴⁵ Schutz, 'Making Music Together' (note 43), pp. 172-3.

⁴⁶ Schutz, 'Making Music Together' (note 43), p. 175.

⁴⁷ Schutz, 'Making Music Together' (note 43), p. 171.

⁴⁸ Schutz, 'Making Music Together' (note 43), p. 175.

⁴⁹ Schutz, 'Making Music Together' (note 43), p. 176.

⁵⁰ Dana Villa, *Arendt and Heidegger: The Fate of the Political*. Princeton: Princeton University Press 1996, p. 12.

⁵¹ Villa, *Arendt and Heidegger* (note 50), p. 11.

⁵² Villa, *Arendt and Heidegger* (note 50), pp. 84-5.

⁵³ Gerhard Eckel 'Embodied Generative Music,' Paper presented to the *BEEM Conference*, 6 November 2009, Graz, p.6.

⁵⁴ Eckel, 'Embodied Generative Music' (note 53), p. 7. The quotations that follow all come from comments made by Gerhard Eckel during the discussion of *EGM* at the BEEM conference.