

Improvisation, Indeterminacy, and Ontology: Some Perspectives on Music and the Posthumanities

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In this article I address some questions concerning the emerging conjunction of musical research on improvisation and work in the ‘posthumanities’, in particular the theoretical results of the ‘ontological turn’ in the humanities. Engaging with the work of the composer John Cage, and George E. Lewis’s framing of Cage’s performative indeterminacy as a ‘Eurological’ practice that excludes ‘Afrological’ jazz improvisation, I examine how critical discourse on Cage and his conception of sound is relevant to the improvisation-posthumanities conjunction. After discussing some criticisms of ontological and materialist approaches to sound, I consider the Actor-Network Theory (ANT) of Bruno Latour, posed as offering an alternative to these approaches. Following an examination of some limitations to ANT based around the themes of critique and abstraction, I draw from the work of Gilles Deleuze and Georgina Born to suggest that work on improvisation and the posthumanities may be fruitful, but must be part of a pluralistic mode of inquiry that does not reject critique and abstraction, as some work in the posthumanities has done.

Keywords: improvisation, indeterminacy, ontology, actor-network theory, new materialism, Bruno Latour, John Cage

Indeterminacy and improvisation

In this article I will address an emerging conjunction in musical research, between on one hand an increasing and broadening concern with improvisation, and on the other an ‘ontological turn’ in the humanities involving the resurgence of materialist, realist, and naturalist philosophical theories. In their introduction to *The Oxford Handbook of Critical Improvisation Studies*, George E. Lewis and Benjamin Piekut call for work in improvisation studies ‘that engages with topic areas in the posthumanities: new materialism, vitalism, and assemblage theory, among others’ (2016, 20), and already we have seen a surge in such work in musical research (see, among many others, Cobussen

2017; Trippett 2017; and Stover 2017). These lines of inquiry are diverse, but share between them a general sense that there are limits to approaches grounded in an ontologically substantial split between the human subject and the world it inhabits. They claim, on the contrary, that attention to a non-anthropocentric image of the world (hence the term ‘posthumanities’) will help us attain a fuller, more adequate picture of the material realities of our fields of inquiry. Here, while acknowledging the potential richness of this conjunction, I will turn to a historical example to elaborate on some potential pitfalls of and limits to these approaches, paying particular critical attention to recent work on improvisation taking up the Actor-Network Theory (ANT) of Bruno Latour, before making some suggestions towards circumventing these pitfalls and limits. The historical example I will begin with concerns the work of John Cage.

Cage’s music and thought might at first glance appear to be a prime contender for engaging with the theorisation of improvisation. Cage famously defines experimentation, key to his work from the 1950s onwards, as describing ‘not [...] an act to be later judged in terms of success and failure, but simply as of an act the outcome of which is unknown’ (1961, 13). What is significant is simply that ‘something happens, something unexpected’ (1981, 222). This is immediately congruent with the etymology of ‘improvisation’, deriving from the Latin *improviso*, ‘unforeseen; not studied or prepared beforehand’, and improvisatory practices have commonly been defined along similar lines (Chare and Swiboda 2018; Feisst 2016, 207). But Cage himself held a more contentious position regarding improvisation, which for him often stands at odds with the purpose of his embrace of experimentation. Cage’s experimentalism was oriented towards a music unconcerned with any given individual’s likes or dislikes or with ‘the expression of an idea that an individual has’ (1981, 167), with the principle behind this being his oft-repeated call to ‘let sounds be themselves’ (1961, 10). For Cage, improvisation, especially jazz improvisation, tends, on the contrary, towards ‘conversation’ (1981, 171), a question-and-answer routine that is too reliant on conscious decision and the recourse to memory to adequately open a situation to the unknown.

Yet, despite this aversion to forms of improvisation inflected with the performer’s personality, Cage nevertheless recognised the necessity of a kind of performative freedom to accommodate such an openness to the unknown. While Cage had used chance operations to free his compositional practice from his own musical taste and intentions

since the early 1950s, by 1958 he saw that the determinate scores this produced, identical from one performance to the next, served to reaffirm a form of compositional control. While the sounds are selected by chance, the performer has no option but to follow the score (1961, 36). Another procedure is required to remove the authority and finality of the score with regards to performance, and this procedure, for Cage, is indeterminacy. Developed through a variety of alternative scoring techniques, indeterminacy is intended to make the performing space itself productive and creative, a space where the performer takes on an engaged and active relationship with the score and strives through it to produce new sound events.

This is ostensibly an inclusive procedure: it is predicated on the allowance of any sound event without the exclusivity and hierarchy that tend to hold in musical contexts, such as the priority of the composer and the score, adherence to harmony and the accepted sounds of concert music, and so on. This is how we should understand Cage's striking claim that 'writing is one thing, performing another, and listening a third; and [...] there is no reason for these three operations to be linked' (1981, 129). Contrary to the hierarchies prominent in Western art music, Cage sees indeterminacy as a means of producing contexts of performing and listening where these practices are not subordinate to composition, but free to operate on their own terms. Yet the priority remains on 'let[ting] sounds be', and with this comes a stringent demand of the performer:

[to] let go of his feelings, his taste, his automatism, his sense of the universal, not attaching himself to this or that, leaving by his performance no traces, providing by his actions no interruption to the fluency of nature. (Cage 1961, 39)

The distinction that this produces between indeterminacy and the most common conceptions of improvisation has been a crucial point of inquiry regarding Cage's work, and with the freedoms it claims to produce.

George E. Lewis's 'Improvised Music after 1950: Afrological and Eurological Perspectives' (1996) is perhaps the key source here, and has been a foundational text in improvisation studies. Lewis challenges the simplistic distinctions that have framed jazz improvisation as an 'outside' to indeterminacy that fails to live up to its standards, arguing that this othering reveals 'whiteness as power' (99-100). Contrary to this othering, Lewis suggests formulating a distinction that is more immanent to the practices under

discussion: for instance, in contrast to the Eurological effacement of personality and ego in the name of a passive acceptance of the world of sound, we could speak of an Afrological perspective defined by its ‘welcoming of agency, social necessity, personality, and difference, as well as its strong relationship to popular and folk cultures’ (110).

The Afrological and Eurological is not a hard divide, but rather a *critical distinction* that works through historical contexts in varied ways, and this alone offers much to work with in theorising improvisation and indeterminacy. Benjamin Piekut, for instance, has recently shown how the improvising practices of the group Henry Cow negotiated between self-abnegation and an interrogation of their individual social roles (2018; 2019), and many improvisers within a broadly Cagean tradition have deviated in various ways from his extremes of depersonalisation (Feisst 2016, 216). But for the purposes of my argument here I wish to turn to a broader critical discourse on Cage, one suggesting that his conception of sound is intertwined with his social positions in a troubling way.

In her 1981 piece ‘Looking Myself in the Mouth’, the choreographer, dancer, and filmmaker Yvonne Rainer reflects on and critiques what she perceives as an overdetermining Cagean influence on her earlier work. For Rainer, Cage’s principle of depersonalisation leads to an ‘abdication’ of any notion of ‘importance or significance’ (2011, 39). By subverting meaning but also, as Rainer sees it, denying the constitution of any new form of meaning, the Cagean performance context is left producing only ‘an impenetrable web of undifferentiated events’ (41). This leaves it to passively deflect questions of power or critique, refusing any possibility of ‘retelling’ the narratives with which it is trying to break (45). On account of this passivity, Rainer concludes that Cage’s practice constitutes an ‘abandonment, an appeal to a Higher Authority’ (47).

The logic of this argument is extended by Douglas Kahn, who associates Cage’s work with a gradual subsumption of sound into the unifying code of ‘music’, which Kahn perceives as taking place across twentieth century music practices. Kahn argues that, in overlooking his work’s continued implication within the terms of Western art music (1999, 198), Cage misses also ‘how willing he was to carry further its processes of exclusion and reduction with respect to sound in general’ (165). For Kahn, Cage’s famous ‘silent’ piece, *4’33”*, is an extension of the decorum of silencing associated with the

concert halls of Western art music, with their ideal listeners extracted from the social realm and faced with an autonomous musical object. Suggested in this is what Kahn sees as Cage's major political failing: in his project to emancipate listening, we are required to silence. Noise as a field of tension, like the tensions of social or ecological relations, is muted, and in its place is a totalising field of sound that the listener can only accept.

Unlike Lewis, neither Rainer nor Kahn explicitly thematise race, but each of these thinkers nevertheless expresses the same fundamental concern with Cage's work: that an attempt to extract sound from the social can only obscure and reaffirm the social dynamics and power relations of musical practices. The pairing of these two levels of critique, where Cage's work on one hand takes on a socially exclusionary character and on the other enacts a reification of an essential idea of sound, is something like what Benjamin Piekut, drawing from Bruno Latour, is pointing out when he suggests that Cage's thought illegitimately maintains a 'modern' distinction between society and nature (2012). But I am going to take a somewhat different path into exploring this pairing. To begin this exploration I will first project Cage's perceived reification of sound forwards, into contemporary debate concerning the ontological turn in sound studies.

The ontological turn

Brian Kane has diagnosed a split in the field of sound studies that scholars working in the conjunction of the posthumanities and improvisation should likewise pay heed to, namely a split between cultural and ontological approaches (2015, 4). As Kane details, a strand of thought within sound studies, influenced by the philosopher Gilles Deleuze, has sought to 'outwit' the 'privileging of cognition, consciousness, anthropocentrism, phenomenology, or culture' in the study of sound, favouring an ontological inquiry into the 'very nature of sound' (9). For Kane, what is ultimately shared across this work is an image of sound untouched by cultural or historical context. On Kane's account, drawing from the philosopher W.V.O. Quine's conception of ontological inquiry, this is an illegitimate theoretical move that obscures the very ways in which sound as an object of study is inextricably bound up in contexts of representation and signification (15).

More pointedly, Marie Thompson has argued that, by disavowing questions of 'culture, signification, discourse and identity' (Thompson 2017, 266), this ontological

turn in sound studies, particularly in the form of Christoph Cox's sonic materialism (Cox 2011), ultimately names as its supposedly unmarked universal standpoint a racialised perspective grounded in whiteness. Again Cage is a central antagonist in this argument, with Thompson arguing that Cox affirms Cage's extraction of sound from the social (272) and in so doing reiterates the 'othering' that Lewis diagnosed in Eurological indeterminacy.

These critiques of 'Deleuzian sound studies' are doubly important for the theorisation of an improvisation-posthumanities conjunction, first in that Deleuze is a key theoretical reference for the 'new materialism, vitalism, and assemblage theory' that Lewis and Piekut call for further engagement with, and second in that we see in sound studies an echo of the essential idea of sound, stripped of social context, that Kahn diagnoses in Cage's thought. Between these we find a sizeable word of warning with regards to the adoption of the ontological turn in improvisation studies. I have argued elsewhere that reading Cage and Deleuze together points us towards a conception of sound defined not by a material essence but in terms of an engaged practical process (Campbell 2017; 2020), and, as I will begin to outline ahead, I believe the questions of 'which Deleuze?', 'which Cage?', and, foremost here, 'which ontology?', will be crucial in navigating the improvisation-posthumanities conjunction without falling into the exclusionary logics outlined by Lewis, Kahn, and Thompson.

The concerns raised regarding the ontological turn in sound studies point to a more general set of critical perspectives on the posthumanities. Will Schrimshaw has argued that a logic of immersion pervades the contemporary arts and related academic disciplines (2015; 2017), stemming from a notion of embodied sonic experience that is 'often *opposed* to rationality, differentiation, critical thinking and decision' (2015, 156). The logic of this immersion is that we are 'bathed' in the immediacy of sound, that in the context of sound art we are passively set adrift in the field of sound. Like Kane, Schrimshaw levels this critique at Christoph Cox's sonic materialism (160), arguing that this concern with material immersion comes at the expense of any means of interrogating the historically and politically specific conditions of contemporary art.

Such a logic of immersion has likewise been posed in challenging the political implications and demands of the ontological turn. Paul Rekret has written of how thinkers associated with new materialism propose an ethics of 'attunement', 'registration', or

‘responsibility’ to an ontological materiality that is in excess of the human subject (Rekret 2016, 226). This is an ethics and politics grounded in humanity’s ‘entanglement’ in the non-human world (225). Yet Rekret argues that this again comes at the expense of adequate consideration being given to the determining role that social relations play in ‘our’ relationship with the world. For Rekret, this ontological priority of matter effects a claim that there are no material constraints to our access to non-human nature (226-27), as we are already within it. With the collapsing of the distinction between human and non-human comes a risk of neglecting or even naturalising how contingent social relations may serve to mediate between human and non-human natures (240). Again, the critical discourse surrounding work in the posthumanities seems to echo a prior and ongoing critical discourse surrounding Cage. A displacement of human-centeredness in favour of an immersion in the world is posited as a positive ethical gesture, but, on these critical accounts, it in fact serves to obscure the social conditions through which thought and practice engage with the world.

All of this sounds worrying with regards to an ontological turn in improvisation studies. But scholars theorising improvisation, including Kane and Piekut, have found in the ANT of Bruno Latour an effective alternative, within the posthumanities, to the ontological essentialisms discussed here. While ANT doubtlessly has much to offer to improvisation studies, in the pages ahead I will attempt to outline some possible contingencies in its open-ended methodology; contingencies that may preclude or obscure certain significant lines of inquiry.

Briefly, ANT can be understood through a founding principle that when approaching a field of inquiry ‘nothing is more complex, multiple, real, palpable, or interesting than anything else’ (Latour 1988, 156). What follows is a careful tracing of networks and of the hybrid objects that can be found there; hybrid, that is, between social and natural, human and non-human, and so on. The Actor-Network Theorist makes no immediate determinations of how these objects are to be qualified; rather, determinations are posited as following empirical inquiry (see Latour 2005). This approach, Latour argues, produces a non-reductive mode of inquiry that can reflect the richness of the networks it engages with, that refuses any turn to illegitimate abstraction and rather seeks to do justice to the diverse human and non-human actors that make up a network.

Both Piekut and Kane suggest that this means that in ANT, ontology takes on a quite different sense than it has traditionally had. Contrary to the essentialisms of so-called Deleuzian sound studies, Kane argues that, by starting from a position from which every object is considered equally, Latour avoids the implicit suggestion of Cox and others that the material world of sound is somehow more ‘real’ than the world of discourse and representation. For Latour we can say that a representation is as real as any other kind of object, a score held in the hands of a listener at a concert as real an actor in that context as the sound waves passing through the air. Piekut, in turn, argues that ANT approaches are not concerned with ‘being and existence’ as such, but rather, through their constructivist character, they ‘tend to follow how networks of actors constitute, or enact, different realities’ (2014a, 199). On Piekut’s account, ANT’s conception of ontology has methodological consequences: ‘by not deciding ahead of time what we are going to find in the world, we allow entanglements to emerge in all of their messiness’.

If the musical and social problems Cage’s practice raises are tied to a reification of music and/or sound, or music *as* sound, then it seems as though the pluralistic ‘messiness’ of ANT could offer an effective counter to this: ANT works on a principle of de-reification, a key effect of its mode of inquiry being a challenge to the determining character of cohesive universal terms like ‘music’ (192). The rich work that has already emerged does much to confirm this notion. Kane, for instance, makes elegant use of ANT to challenge an inflexible realist ontology of the musical work prominent in the philosophy of music, developing an account of jazz standards that is ‘sensitive to the actual performance practices of improvising musicians, arrangers, and performers’ (2018, 522), and Marcel Cobussen’s ANT-informed reading of the minimal electronic music of Sachiko M, suffused with silences and sounds at the limits of hearing, effectively portrays a music that undermines the centrality of the individual performer and distributes the constitution of the piece across equipment, acoustic qualities, listeners, and more (2017, 47-48).

As such, ANT has a clear value as a methodology in musical research, particularly as a means of exposing the limits of some traditional models of inquiry. Moreover, it seems to have a particular descriptive purchase on music that itself attempts to undermine common musical precepts. But here I want to indicate some limits that I believe may yet face ANT, particularly where the criticisms of the ontological turn raised previously

continue to apply. By engaging with recent criticisms of ANT and pinpointing some areas that pose problems for work drawing on this methodology, I aim to offer some suggestions towards addressing these shortcomings anew.

Challenges to Actor-Network Theory

I here consider Latour's approach concerning two related themes, suggesting a refinement or redirection of some tendencies in ANT. These themes are critique and abstraction. Regarding critique, when using this term Latour is usually referring to a form of criticism that he associates with an 'antifetishism' in which the role of the critic is taken to be one of revealing that 'what the naïve believers are doing with objects is simply a projection of their wishes onto a material entity that does nothing at all by itself' (2004, 237). While Latour rarely makes direct engagement with the work to which he is referring, it generally seems to relate to a broadly Marxist tradition, albeit one of 'the Marxists' and not necessarily Marx himself (1993, 121). By 'abstraction', I mean not abstraction *per se*, which Latour indeed affirms in his criticisms of the reliance on common sense by 'sociologists of the social' (2005, 186). I rather refer to what I earlier called, citing George E. Lewis's formulation of the Eurological and the Afrological, *critical distinction*. It is this form of abstraction that Benjamin Noys's often polemical but nevertheless insightful critique of Latour (2010) suggests is difficult to account for in ANT.

Such a position likewise grounds Andreas Malm's severe critique of Latour's contributions to the environmental humanities, with Malm proposing that ANT's concern with 'hybrid' objects cannot provide the critical tools required for facing up to climate change, arguing that a renewed distinction between nature and society is required in order to make the distinctly social interventions required to avert this crisis (2017). I will not here follow Malm's critique to the letter, and I believe that he and Noys alike leave the significance of ANT's capacity to account for the fine-grained detail of local networks largely unspoken. Nevertheless, I do share their concern that the methodology of ANT may direct inquiries in a way that precludes what I have termed critical distinctions, distinctions that are necessary for locating the political crux of a situation and stating the terms of an intervention. As with Paul Rekret's critique of new materialism, the concern with ANT I will outline is that its methodological precepts, despite Latour's claim to their

maintaining a form of abstraction that can accommodate ‘*any shape*’ (2005, 178), may obscure the mediating form that some social relations take.

With regards to improvisation and indeterminacy the significance of this argument is that approaches based on ANT may have difficulty in accounting for the political and ideological forms that produce structures of exclusion, such as that described by Lewis in his distinction between the Eurological and the Afrological, and likewise in accounting for the concerted practical efforts made to challenge these exclusionary structures. As such my general concern here is not to dismiss the use of ANT in improvisation studies, but to suggest the importance of it being but one aspect of a variegated research methodology.

The first theme I will be addressing is prominently raised in Latour’s claim that critique has ‘run out of steam’ (2004). ‘Critique’ here is specifically a form of critique associated with a methodological distrust of the world as we are faced with it and the practice of revealing the ideological biases ‘hidden behind’ supposedly objective facts (227), a form that Latour argues has become commonplace, even common sense. The logic of this critique is no longer the precise instrument it once was, if it ever was: rather than producing only the analytical frameworks of leftist politics, it is equally present across the political spectrum, not least, in a key concern of Latour’s, in climate change denialism’s challenges to scientific consensus (226). Indeed, in a striking remark, Latour suggests that there is little difference between the structure of critique and that of conspiracy theory, both involving ‘causal explanations coming out of the deep dark below’ (229).

A key mistake of critique, Latour suggests, is taking itself to have a privileged position beyond its objects of inquiry, a hierarchy topped by the critic. With ANT, on the contrary, ‘there is no attempt at nesting all relations within one hierarchical order’ (Latour 2011). By following the grain of a field, finding its points of connection and disconnection, Latour believes that ANT challenges the reductive effects of grand social and political theories, and helps the inquirer discover that which risks escaping our attention if viewed only through the lens of these theories.

The appeal of this is immediately evident, suggesting an attention to detail and an adequacy to our fields of inquiry that the wide proclamations of critique may obscure.

However, quite who would recognise themselves in this description of the critic is not clear, and certainly many Marxists would be surprised to hear that they are making claims from afar about the epistemological failures of the individuals they are studying (see White 2013, 667-68). Latour is unfortunately not always clear on who precisely he is referring to, beyond descriptions like ‘the Marxists’ or ‘sociologists of the social’ who are rarely named. But some light can be shed on what Latour is trying to distance himself from by considering the gap that is left behind.

With traditional forms of critique exhausted, some questions arise: how do we determine what to examine, what to challenge, how to deal with competing claims and concerns? Latour’s notion of a ‘Parliament of Things’, an institutional form introducing and representing new actors and concerns beyond those currently represented, is one attempt to respond to such questions (1993, 142), while later formulations such as the ‘composition of the collective’ play a similar role (2005, 160). But can a proliferation of new participants – representatives of ‘the ozone hole’ facing representatives of ‘the Monsanto chemical industry’ on equal footing (1993, 144) – really challenge the established way of things?

I am inclined to agree with Reiner Keller’s (2017) suggestion that, for Latour’s proposals to be effective, something like the kind of critical distance that Latour associates with an exhausted ‘critique’ remains crucial. Keller’s key figure here is Michel Foucault, a thinker who holds an ambivalent position in Latour’s work: we find direct references to the precision of Foucault’s ‘analytical decomposition of the tiny ingredients from which power is made’ (2005, 86), but discussion of how the ‘philosophers and sociologists of power flatter the masters they claim to criticize’ (1988, 175), and the caustically satirical description of ‘[p]aranoiacs’ who ‘confuse the territory and map and think they are dominated, observed, watched, just because a blind person absentmindedly looks at some obscure signs in a four-by-eight metre room in a secret place’ (quoted in Harman 2014, 127), are difficult to read as anything but a rebuke of, if not Foucault himself, then at least his critical legacy. Furthermore, it is hard to imagine how Latour could accommodate key concepts in Foucault like biopower or, indeed, neo-liberalism (Foucault 2008). Keller, with no such ambivalence, restates the necessity of such genealogical and interpretive analytics: for him, Latour’s intention of transforming ‘matters of fact’ into ‘matters of concern’ is not possible ‘if it is not grounded in discourse,

analytical reconstruction of implication constellations, contingencies, and silenced actants, in the carefully done analysis of social relationships of knowledge and politics of knowledge' (2017, 64).

This may not seem so far from ANT, but the theme of abstraction helps us draw some distinctions. Following a similar line of criticism, Benjamin Noys argues that while ANT is an effective method for describing local forms of power and dominance, it encounters a limit at larger scales (2011). As Noys presents this, ANT's attempt to reduce scale in order to open sites for feasible intervention in fact precludes the possibility of making any kind of challenge concerning large-scale issues. This is perhaps not something Latour would dispute: as he says regarding the 'Total', 'there is nothing to do except to genuflect before it, or worse, to dream of occupying the place of complete power' (2005, 252). In the place of considerations of the 'Total', Latour claims that 'action is possible only in a territory that has been opened up, flattened down, and cut down to size'.

But does this in fact adequately displace the idea of the 'Total', or other large-scale structures? Latour's ambivalent remarks regarding capitalism suggest some complications. He is keen to diminish the significance of capitalism as a large-scale structure, arguing that we can speak only of 'capitalisms': local instances of what has been defined as a determining global system, a 'world market' (Latour and Callon 1997). Indeed, he had even previously gone so far as to say that '[l]ike God, capitalism does not exist [...] Capitalism is still marginal even today' (Latour 1988, 173). Yet by his own definition, capitalism is:

the ongoing, unflagging, violent effort to define, format, gather together, and extend 'market economy' as an autonomous sphere which would have its own laws, its own history, and its own essence and thereby seeking to constitute itself as the one and only agent of any possible history. (Latour and Callon 1997)

This does not seem so far from a Marxist critical account of capitalism, but it does seem to jar with ANT. As Noys argues, Latour's commitment to ontological equality faces a hurdle when trying to grasp the logic of capitalism itself (2010, 85). It is not only critics who pose abstractions: even for Latour capitalism itself operates in terms of an abstraction that reshapes the character of objects themselves, and while it may not be 'Total', it is

indeed a logic of totalisation. Capitalism, unlike ANT, is wholly unconcerned with doing justice to the things it engages with. The local investigations of ANT, it seems to me, will struggle to account for this. In cases like these, ANT's principle of de-reification risks missing how abstractions operate and contribute to the constitution of a network.¹ As Noys notes, 'Latour shoots too soon by supposing that we can reach concrete differences directly, without passing through the process of abstraction, and so occludes capitalism's ontological power to determine its own limits as the mechanism of accumulation' (86). As with Rekret's critique of new materialism, and with Cage's reification of sound, ANT is in danger of missing out on the determining character of some social relations.

Returning to the question of music offers what I believe are some direct evocations of these limits to ANT. Brian Kane's discussion of the ontology of jazz standards, emphasising how the work emerges from its performances and reception (2018, 511), makes sophisticated use of ANT to capture an unfolding musical and social process. But it may be somewhat surprising to see Ornette Coleman's nigh-unrecognisable take on George Gershwin's 'Embraceable You' discussed without any reference to wider currents of the radicalisation of jazz, or the political context in which jazz was becoming increasingly associated with the civil rights movement. With a commitment to a flat ontology (Latour 2005, 165), the discursive leap that would be required to make such a move between domains is, I believe, difficult to conceive. Moreover, Kane's remark that the 'ultimate decision' regarding whether the performance is taken to qualify as a version of the standard

rests neither with Herb Geller, nor the jazz critics, nor Ornette Coleman, nor George Gershwin [but rather] with the larger community of musicians, listeners, critics, producers, composers (and their estates), the legal system, copyright laws, and a slew of other actors and institutions. (Kane 2018, 522)

may serve to diminish any account of such a performance as a concerted political intervention. Positively this can be taken to reflect the expanded democracy that Latour champions, but it can likewise be seen as an instance of the political Hobbesianism – 'We

¹ We might, for instance, ask about the ongoing effects of the term 'music' in the 'musicology without music' of Kyle Devine's recent study of the political ecology of music (2019, 18), one of the most significant ANT-informed pieces of musical research in recent years.

cannot distinguish between those moments when we have might and those when we are right' (Latour 1988, 183) – that, however modulated it is by Latour, has worried both his detractors like Andreas Malm (2017, 154) and his supporters like Graham Harman (2014, 119).

Elsewhere, in his ANT-inflected account of Victor Schonfield's Music Now society, Benjamin Piekut is concerned with the admixture of indeterminate composition and free improvisation in the practices and social circles of experimental music in London between 1965 and 1975 (2014b). While acutely describing the dynamics of this network and, through this, undermining any easy split between, for instance, indeterminacy and improvisation, Piekut comes to remark on the 'limits and boundaries to this historical ecology' (776), race and gender among them. With regards to race, Piekut amply accounts for some of the institutional forms that proved exclusionary: union rules, funding structures, and so on (807). But Piekut's enumeration of these racialised structures ends with a final point that I am not convinced is given its due weight: 'the legacies of racial discourse'. With this comes, again, the question of abstraction. There is no doubt that ANT can alert us to instances of discrimination on grounds of race and gender, and to some of the institutional structures that perpetuate these, but, in a limit that Piekut recognises (2014a, 209), it is not clear that with ANT as our only tool these would ever come to our attention: without the analytical frameworks that produce the abstractions 'race' and 'gender', by what means could we pull together the diverse historical and institutional threads we find within a network? George E. Lewis has remarked on how in the theorisation of European free improvisation its players sought a 'severance of the link to the jazz tradition [...] in a way that erased African-American agency and influence altogether' (2004), but it appears that it would be at the very least extraordinarily difficult to use an ANT approach to follow the trail from this network of a small number of white European musicians through to existing systemic racism in the United States and onto its wellspring in the transatlantic slave trade. On the contrary, I am inclined to believe, with the philosopher Charles Mills among many others, that it is only through deploying the critical distinctions involved in abstracting concepts like 'white supremacy', 'patriarchy', and, still, 'capitalism', that we can begin to attend to the realities of inequality (2005, 173).

Brian Kane argues that Latour's ontology does not prioritise any one mode of being over any others (2015, 12), but the theme of abstraction and the critical distinctions that are key to it seems to challenge this notion. There is another widely recognised limitation in Latour's thought that I believe is related to this, namely his difficulty in articulating how things change over time (Noys 2010, 87; Piekut 2014, 205-06), with even a firm supporter like Graham Harman suggesting that Latour's relational conception of actors 'makes him much better at describing things that have already occurred than at considering things that might still occur' (2014, 130). Piekut raises the question of a 'murky distinction between *analytic* and *ethno-ontologies*' in ANT, that is, the difficulties in determining the ways a scholar brings ontological presuppositions into their mode of inquiry (2014, 208), and it is hard to say to what extent ANT itself is weighed down by an implicit research orientation and how much this is the result of the inclinations of individual researchers. This difficulty in accounting for change at the very least echoes Latour's apparent personal preference for reformism, putting faith in institutions to make differences for the better to the exclusion of anything like a revolutionary impulse (Noys 2010, 80). But Latour need not elaborate a desire for revolution in order to counter what seems to me the fundamental presupposition of his ontology that this reveals: namely, that the ideal mode of inquiry primarily involves acts of *description*.

While Piekut differentiates ANT from ontology traditionally understood, and Kane is correct to note that the plenitude involved in Latour's inquiries into networks stands in stark contrast to the 'desert landscapes' favoured in the Quinean ontology that underpins Kane's critique of Deleuzian sound studies (Quine 1952, 191), Latour nevertheless still follows the basic question of ontology as Quine sees it: 'What is there?' (189). Deleuze himself, if perhaps not his followers who are the subject of Kane's criticisms, points towards a way out. In his 1967 lecture 'The Method of Dramatization', Deleuze suggests that traditional ontological inquiries into identity may serve to preclude asking other kinds of question of our fields of inquiry, among them 'who? how? how much? where and when? in which case?' (Deleuze 2004, 96). Moreover, this concerns a direct engagement with what it means to receive a problem, how problems are given to us. As such this directly relates to the gap that is left after the critique of critique, the gap concerning what we choose to examine, what we choose to challenge, and how we mediate between competing claims.

The use of ANT as a method comes after a problem – like gender, race, or climate change – is given to us, and it can be deeply illuminating in these contexts. But recent work in the theorisation of transdisciplinarity has recognised the importance of thematising the existence of problems themselves, arguing that the constitution of problems must be understood as a creative and critical procedure, one that concerns the sometimes speculative drawing of critical distinctions, especially in light of a ‘technocratic’ notion of transdisciplinary research where the problems posed serve only state or institutional ends (Osborne 2015; Maniglier 2021). This sentiment jars somewhat with the ‘trust’ in institutions that Latour has recently described as an important part of fighting climate change (Latour 2013, 3), but in a context where the institutions in a position to carry out this fight seem especially fragile, this jarring could be a significant spur to action. Such a pluralisation of modes of inquiry is, I believe, crucial to overcoming the possible limits of the improvisation-posthumanities conjunction I have detailed here.

Perhaps the most adequate model for engaging with music in such a pluralistic fashion we have so far is that recently outlined by Georgina Born. Born argues that music’s social mediations must be analysed on (at least) four planes: the first concerning music’s own production of diverse socialities, the second its power to animate imagined communities, the third its refraction of wider social relations, and the fourth its boundedness with institutional forces (Born 2017, 43).² Such a plurality of frames and an affirmation of a relative autonomy between them does much to manage the barriers we have encountered in the posthumanities. It allows us to attempt to account for the persistence of abstraction and the necessity of critique without positing an epistemological hierarchy topped by the critic. As Noys says, ‘to change requires disengaging from the actuality of the current situation’ (2010, 87-88), but here this need not involve taking an impossible perspective from outside; rather it can take place through drawing frames together, and attempting to untangle the social mediations that allow them both their relative autonomy and mutual co-implication.

Contrary to Piekut’s claim that the kind of variegated temporalities of Born’s schema contrast with the risk of a temporal flattening we find in the work of Deleuze

² For a detailed overview of ANT’s role in research into music and mediation, see Born and Barry 2018.

(2014a), I would like to suggest that, despite this risk certainly applying in more severe readings of Deleuze, and despite Brian Kane's critique of Deleuzian sound studies, that Deleuze, in his individual works and in his collaborative work with Félix Guattari, is one of the greatest potential resources for theorising the multi-layered social and temporal dynamics of improvisation. From *Difference and Repetition's* three syntheses of time up to the diverse disjunctive temporalities of *A Thousand Plateaus's* onto-ethology, Deleuze's philosophy of time is one of the richest available to us (see Williams 2011). More could be said about Deleuze, and Guattari – about the assemblage as a powerfully analytic, critical, and creative concept, about Guattari's 'three ecologies' as a model of the kind of variegated analysis Born champions – but it suffices for now to say that I believe in their work we will find much in the way of the kinds of careful formulations of multiple levels of articulation that Born sees as necessary to the social study of music. Moreover, unlike other frameworks, such as those derived from critical theory, Deleuze's thought does not necessarily stand in an antagonistic relation to the flat ontologies of new materialism or ANT. On the contrary, it suggests means for enriching and widening these modes of ontological inquiry.

Such a plurality of frames can help us pinpoint how such an exclusionary divide as that between indeterminacy and improvisation came to be, but without necessarily devaluing any given perspective. We can through one frame appreciate Cage's vivid theorisation of sound through his challenge to the hierarchies of Western art music, through another frame analyse the processes of social silencing implicated in this, and through a third frame situate it in the context of white supremacy. We can likewise account for the diversity of approaches that elaborate on or break with Cagean indeterminacy, those that follow the path of jazz improvisation, and many in between. In this respect George E. Lewis's study of the AACM is a prime example of this kind of research (2008), and his distinction between the Eurological and the Afrological is precisely the kind of critical distinction that arises from navigating between frames of reference, bringing to light the forms of inclusion and exclusion at work within given musical practices. When exploring the potentially fruitful conjunction between improvisation and theory in the posthumanities, we would do well to bear this work in mind.

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