

Composing Intra-actions: Instrument(s) as Baradian apparatus

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[Written Version]

Recently, I returned home from a trip to the Dordogne valley with two small bowls. And – humble though they might be in themselves – these little artefacts serve as an interesting aperture into the world inhabited by this paper proper.



Figure 1: Two Small Bowls (purchased Mopazier, France. June 2016)

In particular I was drawn to the glazed finish of the bowls. And in this regard the fact that I acquired two is far from insignificant. Built up of various coats of various vaneers, the final form of the finish is effected by the so-called breaking or flowing qualities of these glazes – that is that they move, bleed or alter in transparency as they are fired. Minute differences in the internal composition, relative location and method of application leads to radically different interactions in the kiln and, as my smallest of collections illustrates, the result is that no two bowls are the same.

But perhaps more interesting still is the conversation I had with the potter as I purchased the items. As I remarked how it would be difficult for me to buy just one, he replied that he painted them all the same, they just *chose* to be different.

And that last remark leads me directly to that which I wish to articulate here. Just like the potter's bowls *chose* to be different, I wish to exposit a model of understanding in which musical instruments – and I use the label as broadly as possible at present – *themselves* can be foregrounded as having choice or agency in the instancing – or perhaps *matter*ing – of a musical work. In particular, this paper outlines its position via consideration of core terminologies from new

materialist philosopher Karen Barad and illustrates how such conceptual technology has begun to be harnessed in my own creative practice as a composer. But for now, let us return to the title.

The two core Baradian terminologies used in my headline – those of *intra-action* and *apparatus* – are those specifically associated with the philosopher's wider *agential realist* framework, of which there is clearly not space to offer a full account here. Nevertheless, let us first introduce her ideas by considering her notion of *intra-action*.

The neologism “intra-action” *signifies the mutual constitution of entangled agencies*. That is, in contrast to the usual “interaction,” which assumes that there are separate individual agencies that precede their interaction, the notion of intra-action recognizes that distinct agencies do not precede, but rather emerge through, their intra-action. (Barad 2007 p.33, emphasis retained)

Barad herself renders this position more tangible via consideration of the phenomenon of diffraction.

To paraphrase her own words, diffraction is the phenomena of interference patterns enacted by a wave when it confronts an obstruction to its path. Parallel wave formations in our seas, for example, diffract into widening concentric circles as they pass through a small hole in a breakwater.

Barad's contemplation of this example is interesting. The phenomenon under scrutiny (diffraction) does not wholly exist in the wave itself, nor in the obstructing breakwater, it is the collisional result of both. Yet Barad takes this pathway even further. The breakwater only becomes a matter of diffraction when it is collided with the original wave. But at one and the same time, the wave only becomes a matter of diffraction when it is collided with the breakwater. In a sense, for Barad, it is actually only through diffraction that what appear to be its *constituent* agents come into being – the barrier-as-barrier, the wave-as-unaltered. (Barad 2007 p.74)

Barad acknowledges that what is being put forward here is a framework not unfamiliar to the epistemological issues surrounding quantum mechanics. In the quantum world, particles exist simultaneously as both a wave *and* a particle. But the way the particle is *observed* intrinsically changes its nature from one to the other. Against prevailing common sense, the act of observation changes the state the electron exists in – you can only ever witness it as *either* a wave *or* particle, not both.

With the act of observation so innately entwined with knowledge and being in this way, Barad moves to expand on such ideas by defining a notion of *apparatus*.

‘In my agential realist account [...], *apparatuses are the material conditions of possibility and impossibility of mattering*; they enact what matters and what is excluded from mattering.

Apparatuses enact agential cuts that produce determinate boundaries and properties of “entities” within phenomena, where “phenomena” are the ontological inseparability of agentially intra-acting components’. (Barad 2007 p.148, emphasis retained)

Standard preconceptions of causality are essentially reversed here. The apparatus, here essentially defined as ‘a something that allows a something else to be viewed,’ is *active* in mattering. Rather than passively accessing some exterior reality, the apparatus can be considered essential in making it. Put even more simply, from the quantum behaviours of electrons to the mechanics of wave diffraction, the act of viewing something changes that which it is.

It might already be implicit how such a perspective could be useful as a model to reconsider musical instruments in relation to. Indeed, such a perspective also offers potential insights into what a musical instrument actually *is*.

Of course, to suggest that the *composing* of an instrumental work can exist in a state of entanglement with the instrument(s) for which it is written is nothing new or revelatory in itself. Whilst a comprehensive documentation of all the forms this relationship could take is well beyond the scope of this paper, one could elaborate by citing obvious examples such as Richard Barrett’s ‘zero point’ approach to instruments (DeForce 2000 pages unnumbered) as documented in his solo cello work *Ne songe plus à fuir* (1985-86) or Helmut Lachenmann’s conception of *musique concrète instrumentale* as manifest in his string quartet *Gran Torso* (1972) (Lachenmann 2004 p.59).

Perhaps more interesting than any one of these specific examples is how certain contemporary frameworks attempting understandings of making seem to synergize with the space Barad has defined. Tim Ingold’s notion of *intransitive making* serves as a particularly illustrative example.

‘I argue [...] production must be understood intransitively, not as a transitive relation of image to object. This is to set the verb ‘to produce’ alongside other intransitive verbs such as to hope, to grow and to dwell, as against such transitive verbs as to plan to make and to build.’ (Ingold 2011 p.6)

To elaborate.

‘I want to think of making [...] as a process of *growth*. This is to place the maker from the outset as a participant in and amongst a world of active materials. These materials are what he has to work with, and in the process of making he ‘joins forces’ with them, bringing them together or splitting them apart, synthesising and distilling, in anticipation of what might emerge. [...] Far from standing aloof, imposing his designs on a world that is ready and waiting to receive them, the most he can do is to intervene in worldly processes that are already going on, [...] in plants and animals, in waves of water, snow and sand, in rocks and clouds.’ (Ingold 2013 p.21)

There are two important conclusions to draw. Firstly, materials have *agency*. Making is not a matter of superimposing abstract ideas onto inert phenomena, but is instead an entangled dialogue between imaginations and the agency – or will – of materials that are already active in the world. Put simply, the ‘stone-ness’ of stone forms a part that which is made out of it. Secondly, following in Ingold’s understanding of the concept – musical instruments are *themselves material*, just as a hand axe can be said to be made out of stone, Barrett’s *Ne songe plus à fuir* can be said to be ‘made out of cello’.

Barad’s ideas allow this model of instruments as *agential materials* to be further exploded.

In his widely read 2010 thesis ‘*Instrumental mechanism and physicality as compositional resources*’, composer Timothy McCormack says ‘an instrument must first be held by a human being before it is that instrument’ (McCormack 2010 p.5, emphasis added) – i.e. an instrument exists as a dense and complex entanglement of bodies, equipments and historiographies. At the very least, as posthumanist commentators have suggested (e.g. Braidotti 2013 and Pepperell 2009) we are dealing with a cyborg.

But instruments more than *are*, they *do*. And, in the agential materialist account previously introduced, such *doings* do not simply constitute a neutral translation of abstract to sonic, the instrument-as-material-now-as-cyborg can be understood as the material of which its own sonification is comprised from. To return to Barad, It ‘enact[s] what matters and what is excluded from mattering’. The instrument is an *apparatus*. It is the *site* of intra-action.

The mutual entanglement of phenomena in the instrument-cyborg is, therefore, *onto-epistemological*. That is, knowledge of being and being itself are one and the same intra-acting process. Counter intuitive as it may be, the Baradian model consolidates previously introduced perspectives by suggesting that, as an apparatus, the entwinement and intra-action of these agencies in the instrument *cause* our ability to *delineate* these entities within the resultant phenomena itself.

Introducing how such a conceptual infrastructure has begun to influence own my recent creative practice is best done by a via concrete example. In the numerous follies that comprise architect Bernard Tschumi’s work at the *Parc de la Villettes* (1988-92) in Paris, a set of deliberately openly-defined structures for public use were made, allowing the spaces they create to then be purposed and repurposed by whomever came to use them at a given time (Tschumi 1996 p.199).

Ideas from psycho-geography explode this position a little further. Here, notions of *space* are bifurcated from *place* (e.g. Lynch 1960, Lynch 1972, Canter 1977). Space is understood as an a-cultural, a-temporal and experientially neutralized zone whereas places are spaces-as-lived. To offer a Baradian reading of this situation, in somewhere being a place it is intra-acting into knowledge-being through creating bifurcation the between its space from its users.

So just as Bernard Tschumi created spaces be intra-acting as places, I have come to understand my scores as spaces to be intra-acted by instruments. Now, whilst in itself that statement seems to offer little in the realm of new creative territories, what it *does* do is provide an origin-point from which the conceptual infrastructures it is derived from can begin to be multidimensionally traversed.

To begin with, apparatuses not only make but also *change* that which they view – and a considerable amount of my recent output has been devoted to foregrounding this scenario in a variety of different ways.

for laura
shell
matthew sergeant (b.1984)

The image shows a musical score for a voice piece titled 'shell' by Matthew Sergeant. The score is written for a voice part, indicated by the 'for laura' dedication. It features a complex notation system with multiple staves. The top staff has a treble clef and a key signature of one flat (B-flat). The score includes various dynamic markings such as *mf*, *fff*, *ppp*, and *ff*. There are also large 'V' symbols and a large '8' at the end of the score. The notation includes a series of letters (t, b, d, l, i, o, a, n) and numbers (3, 5, 7, 6) arranged in a way that suggests a deconstruction of human voice into various material zones.

Figure 2: Matthew Sergeant - [shell] (2014) - for unspecified voice – b.1-3

My recent miniature [shell] (2014, an extract of which is shown in figure 2, above) for unspecified human voice serves as a humble first example. In this piece, the voice is deconstructed into various simultaneously operating material zones – consonants, vowels, glottal position and pitch-to-noise ratio are all assigned different behavioural tropes and even notational spaces in the score. All of these compositional strata are performed simultaneously and allowed to infect one another – certain glottal positions, for example, might involuntary effect vowel sound, etc. The stuttering glitches of the resultant sonic surface can be understood as a series of intra-acting moments, where each performative strata only comes into existence as a separate agency as it is entangled with the agency of others. The instrument – here, the voice – is foregrounded as the apparatus through which the music comes to be.

Other similar examples of my work have come to attempt to foreground instruments as apparatuses in an even more pronounced way. What struck me when listening to various performances and performers of [shell] was the extent to which the instrument – here itself entwined with their body – was awarded an agency to dramatically alter the sonic reality of the work. From instance to instance, some bodies permitted glitches to occur where they had not before, whereas others presented new kinds of melding.

Within this context, it struck me the extent to which Western classical instruments have consistency evolved towards a point of stability in sound-making. The expectation is that if one positions a finger on a key or on a string in the 'correct' manner, an anticipatable result will occur. In a sense the agency of the instrument has been shackled. To more fervently *release* the instrument as an intra-active agent seemed to suggest the *de-shackling* of the stable relationship between score instruction and sonic output.

To that end, certain of my recent scores have been designed for performance on instruments set up in such a way so as to permit access to more destabilized states. Radically detuned strings, for example, 'fail' to hold pitches in consistent ways. By employing such strings within pitch-based frameworks, then, allows the agency of these strings to be rendered audible – they edit and transform the pitch material 'on the page' independently of the agency of both the composer and the performing body – and do so *differently* upon each instance of the work in performance.

As an aside, if resonances between that which is being explicated and the so-called 'Glitch Aesthetic' as outlined by, for example, Kim Cascone (Cascone 2000) are beginning to be felt, then I too share your feelings. Perhaps glitch could be re-understood as the de-shackling of agency in these terms – but I save that discussion for another day.



Figure 3: Flugelhorn as prepared for performance of [terrains]

[*terrains*] (2016) for solo prepared flugelhorn, an excerpt of which began this presentation is indicative of this kind of operational space. The brass instrument is set up with certain tuning slides removed and replaced with alternatives made of tin foil (see figure 3, above). As a result, pitches that require fingerings that utilize these prepared valves are thrown into a highly unpredictable state, beyond the control of both myself as composer and the player as performer. Minute changes in the construction of the tin foil substitutes *between* performances drastically

effects that which occurs sonically *in* performance. Even if made the same, they *choose* to be different.

In my even more experimental work of this nature, Barad's infrastructure has allowed me to abandon my own stable relationship between material and instrument-choice, as demonstrated in my ensemble work *[place]* (2015).

In effect, the notational strategy employed here can be read as an amplification of that employed in work like Louis Andriessen's *Workers Union* (1975). That is to say that I specify gestural *shapes* in great detail, but allow the performers to choose the *notes* with which to execute them themselves (seen in figure 4, below).

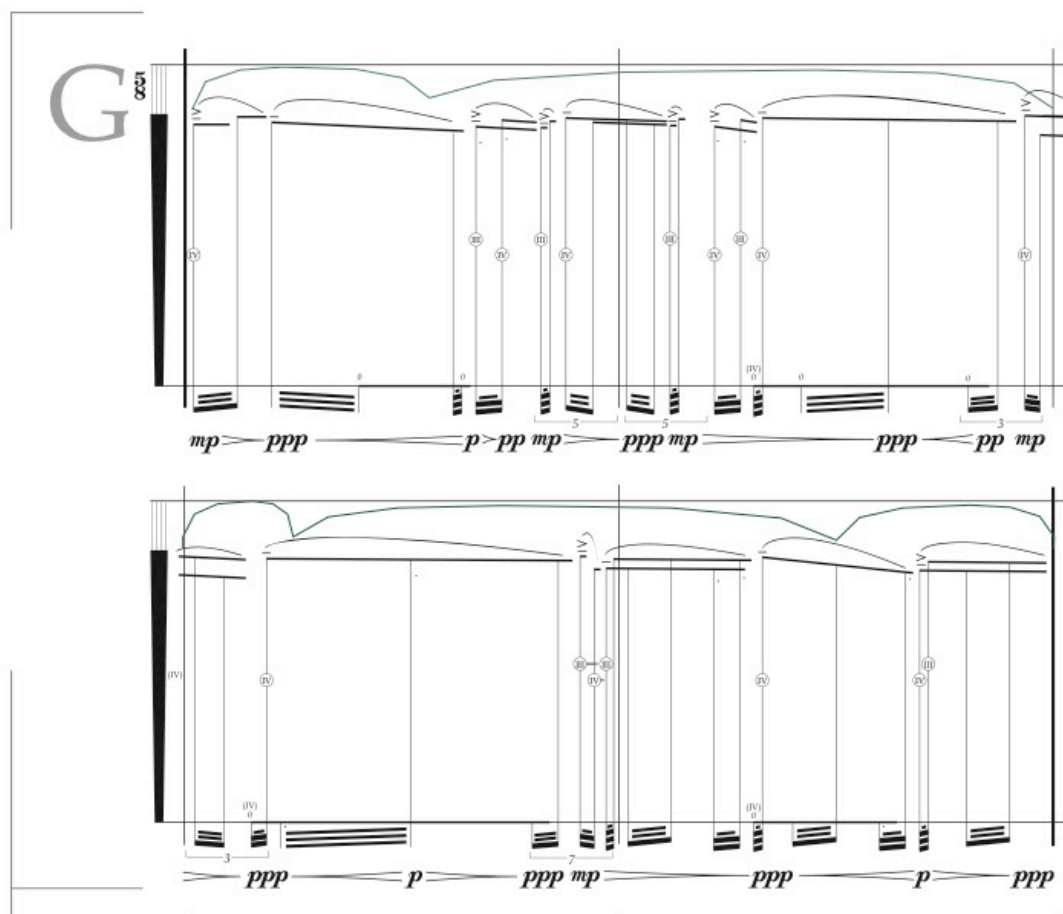


Figure 4: Matthew Sergeant - *[place]* (2015) - for unspecified ensemble – module G

Just as is the case with *Workers Union*, in *[place]* all players (in essence) read from the same notation and both pieces are also ultimately open-scored.

Where I might argue that the amplification of this strategy resides is in the choice of gestural materials employed. In composing *[place]*, particular care was taken to make gestural and registral choices that would create wildly divergent sonic outputs when sonified on different instruments. *Pianopianissimo* wide trills in the extreme highest register of a bass flute, for example, will often crack and falter in way that the same gesture on a violin might not. The instrument-body interface

also activates the choice of notes made - what constitutes an executable choice of intervals for a wide trill in the low double bass are not what may be chosen for an oboe, etc. The final identity of the sonic surface of an instance of the work, then, could be understood as a foregrounded intra-action between a gestural imagination and the embodied instruments with which it is executed.

So in all this work as a composer, do I consider any of these approaches to have successfully foregrounded Barad's conceptual ideas in compositional practice?

The fact that I don't have an answer to that question may at first seem undesirable.

But in this more concluding sense, Barad's ideas themselves offer great creative comfort. Comfort in the fact that the applications of the various conceptual technologies she has presented me are, in fact, not objects to be found, they are themselves intra-acting with me as I write my music. Composer as apparatus too.

The act of my composing, therefore, is not an action that moves her ideas from a conceptual to a sonic realm, it is an action - an *intra-action* - that simultaneously entangles *and* bifurcates those two levels of creative being. The piece - or more precisely the *writing* of a piece - as apparatus as well.

The next piece - the next *apparatus* - cuts differently and so on. It's not quite that Barad's original conceptual infrastructure is being explored more fully or differently, it's that her conceptual infrastructure *itself* is qualitatively *changing* as it is viewed via the apparatus of another piece.

The title of this paper is 'composing intra-actions' and it is hoped now that the sentiment expressed there is now better understood. But perhaps now in understanding that title - in making it matter - we too have forged ourselves as apparatuses within its space. Perhaps 'composing *as* intra-action' could be an alternative cut into the entanglement. Or intra-action *as* composing even more so. And then thinking on that in turn, maybe the distinction between these possible titles renders the overall sentiment to be taken this paper even clearer, that my endeavours to compose intra-actions are themselves intra-acting apparatuses that create and entwine the distinction between the *doing* of a composition and the *being* of a composition in the first place.

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