

# A MATTER OF NOTATION: CASE STUDIES IN MATERIALITY, TEMPORALITY, AND THE SCORE-OBJECT

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*Mattering is simultaneously a matter of substance and significance, most evidently perhaps when it is the nature of matter that is in question, when the smallest parts of matter are found to be capable of exploding deeply entrenched ideas [1, p. 3].*

– Karen Barad

*The art or cultural object is endowed with a capacity to generate both time and space [2, p. 368].*

– Georgina Born

## ABSTRACT

From a posthuman perspective, music-making can be understood as a lively assemblage of human and non-human agents. Within this framework the term ‘music culture’ expands to include more-than-human contexts, scales, and temporalities. The question therefore arises: how might composers facilitate musical experiences “beyond the ‘mesoscopic bubble’, within which our human perception and phenomenological considerations are still enclosed” [3, p. 1]? In this paper, I position the score-object as a subject with material vitality, and an active participant in the balance of agencies in the musical assemblage. Specifically, I employ the notion of “medium time” as outlined by Georgina Born to understand how musical objects act independently in and on time.

Through material intervention in my notational practice, I assess the balance of these agencies as they arise in musical experiences. More specifically, in this material context, I am continuing an investigation of “watery logics”, incorporating water into my practice as medium (and subject) of primary focus. In this paper, I present two material-compositional case studies from 2023, wherein animated notation is re-mediated by water for generative visual results, resulting in fluid dispersion of musical agency. Finally, I position this discussion within a broader posthuman discourse of ethics.

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## 1. INTRODUCTION – TIME AND OBJECTHOOD

Musicians trained within the Western Classical idiom know intimately the compulsion for score study, and the associated faith in icons, documents, and visual motifs inherited from our forebears. We love to pore over scores – a living High Romantic practice. In 2016, Mahler’s handwritten Second Symphony sold for £4.5 million, and remains the most expensive score ever sold at auction [4]. How we revere these material fragments of history.

Traditional customs in Western Art Music often cite the manuscript as a source of essential compositional knowledge – as Taruskin wryly put it, the “inviolable musical ‘object’” [5, p. 339]. The sanctity of the urtext and the politics of reproduction – or, the material authenticity and transformation of the score through time – still govern performance practices around the world. Beginning in the late 20<sup>th</sup> century, a lineage of music philosophers has challenged these material-temporal ideologies, culminating in contemporary, post-Deleuzian discourse that understands the past-future relationship (and the role of a musical object, or score, within this) as one of deep complexity: “The object is changing, the environment where it is posited is changing, and the subject-receiver is changing” [5, p. 72].

De Assis offers a *logic of assemblage* for this revitalised epistemology, which serves to describe the dynamic systems arising from entanglements of human and more-than-human objects and practices [5, p. 99-100]. The effect of this logic is “the overcoming of unity in favour of multiplicity, of essence in favour of event, of being in favour of becoming”. The question therefore arises: how might we understand the new role of the score within the musical assemblage, and what becomes of the composer against the backdrop of inherited ideologies in Western Art Music?

In contemporary practice, increasing numbers of composers are concerned with posthuman issues, and the question of human subjectivity in an ecological framework – a flat ontology aligned with that of the assemblage. Furthermore, many composers are engaging with temporality in this context, for example Liza Lim (*Multispecies Knots of Ethical Time*, 2023) [6], John Luther Adams (*An Atlas of Deep Time*, 2021) [7], and Harrison Birtwistle (*Deep Time*, 2016) [8].

Of these composers (a non-exhaustive list) and within this framework of eco-logic, Lim makes an explicit connection to the *agency of the score*: “What levels of sensory abundance could be unlocked for the performer if they

engage with the sentience of notation?.. One can argue things into lifelessness, or one can enter into a weaving, rhythmic, multi-modal sensory relation where what one does is continuous with a wider living world” [9]. She argues for experiences of posthuman time that come about by the very materiality of music-making. With reference to her work *The Tailor of Time* (2023), she asks: “How does one tie ‘knots’ in time, sew ‘pleats’ or ‘pockets’ in time and not only disrupt but rip up, create rifts in, and erode the materiality of time?” [9].

It is here that I situate my work. My compositional practice takes a material approach to the associated practices of notation and scoring, employing graphic, animated, and physical media. I am interested in the score as a trans-temporal object – that which transmits cultural information through time, presents dynamically in different temporal contexts, but retains some sense of objecthood agency so as to be partially independent of the human cultural context. My own notation playfully engages with theories of temporality, often with reference to anthropologies of future-seeing and prophecy.

## 2. NEW MATERIALISM AND THE POSTHUMAN

Before delving too far into the new materialist epistemology that furnishes this understanding of the agentic score-object, I offer first a brief discussion of the posthuman – the ethical foundation and motivating force for my compositional practice – and some context on the idea on the musical assemblage. In this paper, I take an explicitly posthuman stance to view music-making as a lively assemblage of human and non-human, living and non-living agents, one of which is the score. Karen Barad offers the following:

Posthumanism... is about taking issue with human exceptionalism while being accountable for the role we play in the differential constitution and differential positioning of the human among other creatures (both living and non-living). Posthumanism does not attribute the source of all change to culture, denying nature any sense of agency or historicity. In fact, it refuses the idea of a natural (or, for that matter, a purely cultural) division between nature and culture, calling for an accounting of how this boundary is actively configured and reconfigured [10, p. 136].

In this definition I read accountability, empathy, and reflexivity – the ongoing, species-wide evaluation of self and subjecthood, the probing of our entanglements with the other, and a practice which I believe is enacted inherently (knowingly or unknowingly) within the musical assemblage. A term with a rich discursive history [11], ‘assemblage’ as I understand it serves to describe the dynamic and emergent processes in ways of being together: “Assemblages are open-ended gatherings. They allow us to ask about communal effects without assuming them. They

show us potential histories in the making... How do gatherings sometimes become ‘happenings’, that is, greater than the sum of their parts?” [12, pp. 22–23]. A musical assemblage is a profound network of relationships between living (composers, performers, conductors, audiences, human microbiomes) and non-living agents (instruments, venues, acoustics, weather systems, and, of course, scores). Assemblage theory articulates the dance of agencies that occurs across the various temporalities enlivened by these agents.

In the quotation above Anna Tsing alludes to the sociopolitical power of the assemblage, the potential energy in the act of becoming together across a curious scale of time flipped back upon itself: “histories in the making”. Barad also positions posthumanism within a larger cultural-ethical framework, with very specific discursive treatment of the present “the becoming of the world is a deeply ethical matter” [10, p. 185]. If ethics were to exist in a medium, or to become material, surely it would be in the weave of time. Our values and morality exist inherently as negotiation of past and future – that which we judge to be good must have some precedent, and, of course, consequence – and the liveliness of the musical assemblage compels us to reckon with the ethics of agency in real-time. This negotiation is felt in the subtleties of ensemble musicianship, and in the vibrancy of music-making as a temporal-material medium.

Posthuman and assemblage theory promise greener pastures for many areas of musicology. In this paper I am concerned specifically with the vitality of non-living matter in the musical assemblage, and the role of scores as trans-temporal objects within this framework. Returning to Mahler’s Second Symphony manuscript, and the strange power it held over the buyer who decided to drop a substantial amount of cash to secure ownership. For those similarly enchanted, Jane Bennet compels them to “linger in those moments during which they find themselves fascinated by objects, taking them as clues to the material vitality that they share” [13, p. 17]. There is something about the manuscript’s objecthood – its material fragility, coupled with its remarkable journey through time, a trajectory quite exempt from any singular human frame of reference – that moves us. As the score was once made, it continues to make, playing a vital part in the evolution of living music cultures, not least historical music practices.

The epistemology offered by new materialism constitutes a radical renegotiation of the role of the score. Within this framework of music-making, “non-human materialities [are] bona fide participants rather than... recalcitrant objects, social constructs, or instrumentalities” [14, p. 62]. Where post/structuralist critics may challenge this, bearing arms with the notion of representation – scores are, after all, composed of iconography, and we speak so often of the separate process of *interpretation* as the humanistic organisation of these codified symbols – Barad offers the following material reconciliation of signifier and the signified: “The common-sense view of representationalism – the belief that representations serve a mediating function between knower and known – ... displays a deep mistrust

of matter, holding it off at a distance, figuring it as passive, immutable, and mute, in need of the mark of an external force like culture or history to complete it” [10, p. 133]. That is to say: “Matter and meaning are not separate elements” [1, p. 3]. The material choices we make as composers in our notation matter, and cannot be divorced from the meaning gleaned by those who read it. A material approach to the score necessitates deeper deliberation on mediation itself, and calls to question what musicality and music-making might evolve to mean in different material contexts.

### 3. MATERIAL PRECEDENTS IN THE ARTWORLD

I am interested specifically in musical-temporal phenomena produced by experiments in notational materiality. Here, I take methodological cues from the artworld, wherein discussions of materiality and meaning have long been foregrounded, and whereby the reverence of material artefacts has no direct equivalence. Choosing exactly which material to use in my experiments has been a process grounded in research, and largely informed by an ancestry of artists and makers working with themes of music, time, and objecthood. The case studies of my own material approaches, described below, build on work by the likes of Christian Marclay, Cornelia Parker, and Man Ray – artists who have engaged conceptually with theories of temporality and music-making.

Man Ray’s *Object to be Destroyed* (1923) [15], a ready-made, takes what is perhaps the most widely recognised symbol of regimented musical time – the metronome – and instils it with a violent potential energy. In the work, a cropped photo of a woman’s eye (belonging to Lee Miller, his ex-lover) is affixed to the metronome’s swinging hand – a human-object cyborg companion in his studio, that which would observe his artistic process, ominously dictating a timeline of its own. Here, Man Ray challenges the duality of subject and object with explicit reference to the audience gaze. Where previously a human audience plays a passive role in observation, Man Ray’s *Object to be Destroyed* asserts an active role in the creation of artwork in a dynamic embodiment of more-than-human time.

Upon his split with Miller in 1932, Man Ray recreated the work for the first time with the following text instruction (a score of sorts): “Cut out the eye from a photograph of one who has been loved but is seen no more. Attach the eye to the pendulum of a metronome and regulate the weight to suit the tempo desired. Keep doing to the limit of endurance. With a hammer well-aimed, try to destroy the whole at a single blow” [15]. This was the first of a series of manifestations that would occur as the object was destroyed and re-made many times over. Like a work of music, the artist’s initial material model and the accompanying instruction served as a score for subsequent performative iterations over the 20<sup>th</sup> century. The work assumed various titles, including *Indestructible Objects*, and *Perpetual Motif*, alluding to the cycle of destruction and regeneration that would out-live the artist himself, and his original audiences.

Where Man Ray’s object is subject to a violent, perpetual cycle of life and death, Cornelia Parker’s *Perpetual Canon* (2004) [16], is destruction frozen in time. Composed of defunct brass instruments – tubas, trombones, trumpets, a sousaphone – squashed flat by an industrial press, the work is suspended in a circle organised around a lightbulb, which throws a shadow of the instruments on the surrounding walls. Parker is interested in the material memory of her work, and uses objects with significant cultural-historical trajectories, in this instance the British Brass Band. The title refers at once to the canon as musical form – the work a material representation of infinite repetition – and perhaps also the notion of circular breathing, evoking a visceral response in her audience of immeasurable breathlessness. *Perpetual Canon* presents boundless time in a suspended moment of quiet destruction, forever recreating the moment where her materials were crushed flat.

There is something about the score-object that presents to us a perpetual motif, or a perpetual canon of reoccurrence in its very materiality. This is the quality of trans-temporality that I refer to in my own work, a curious distortion of linear time: “To say that art is taken out of time is not to say it is timeless but that its relationship to time and history becomes multiple” [17, p. 23]. In the final example I will draw from the artworld, Christian Marclay distorts musical time with his visual-material practice in *Drink Away* (2014) [18]. He superimposes crown glass (the product of a specific British glass-blowing technique, often to be spotted in pub windows) on sheet music of an English drinking song. The diffraction of light through the glass medium bends the linearity of the musical stave, speaking not only to the sense of expanded musical time, but also to experiences of drunken, distorted time. It is from *Drink Away* that I take material cues for my own notation experiments (explained below), beginning with representation of the musical stave as the most prominent Western icon for musical time.

### 4. MEDIUM TIME

Anthropological musicologist Georgina Born notes that “music provides an auspicious terrain for retheorising time and history” [2, p. 362]. According to Born, music offers fertile ground for thinking through past, present, and future, not only for its phenomenological and experiential characteristics as a lively temporal medium, but also for the host of temporal ideologies inherited by practitioners of the Art Music genre: “music produces time through the contingent articulation of its several temporalities, while in turn the variant temporalities immanent in social, cultural, political, and technological change mediate the evolution of music and musical genres” [2, p. 371]. To think of the *production* of time – the tantalising idea that somehow time itself might be manipulated in arts practice – relocates this discussion from the realm of physics and science fiction, and calls to question the ethics of *making* time in musical assemblages. What kind of time is made, and by whom?

Scaffolded by the interdisciplinary discourse of temporal philosophy, Born identifies four musical temporalities, which provide a neat framework for theorising time in musical contexts:

1. The first temporality is well recognised: the qualities of temporal unfolding of musical sound as it enlivens musico-social experience and “entrains” musical attention...
2. A second temporality [is derived from] ... the radically object-centered, posthumanist perspective that any musical object or event itself animates a temporality through its retentions and protentions – through connections to prior and prospective objects or events...
3. A third temporality concerns the variable temporalities produced by particular genres as themselves objects distributed in time, in the guise of any genre’s characteristic metarhythms of repetition and difference...
4. The fourth returns to the human via temporal ontologies: encultured ways of living and conceiving time [2, pp. 372–374].

Where the first and fourth temporalities are perhaps the most widely appreciated in musicology, the third is typical of Born’s longstanding engagement with genre theory. It is, however, the second of Born’s temporalities that interests me for two reasons: firstly, the theory’s posthuman motivation, and the world of temporal philosophy that is revealed upon stepping out of the human mesoscopic bubble, and secondly; the creative possibilities for temporal intervention (the above-mentioned *making* time) as a composer presented with new material and object-oriented pathways. As Tsing writes regarding more-than-human time-making: “The curiosity I advocate follows such multiple temporalities, revitalising description and imagination” [12, p. 21].

Born elaborates on “the temporality of the medium” as “a temporality that in each case interferes technically, conceptually, and aesthetically with the musical temporalities at issue” [2, p. 380]. If we are to think of mediation as interference, then we ascribe agency or intent to the medium actor. And once the discussion returns to agency, we must necessarily return to the ethical question that is implicit in the balance of agencies within any musical assemblage. What kind of time is made, and by whom? Writing from the human-scale reference point, it is easy to identify hegemonic temporalities – the temporality of progress, of neoliberal time, of Museum Culture, the religious temporalities of fate and determinism, to name a few – at play within Western culture spheres. By the simple virtue of offering more-than-human temporal alternatives, the creative possibilities for sustainable coexistence (for example, along deep, post-anthropocentric timelines) blossom. Whilst this might sound like an extrapolation upon theories of medium time, I argue that just the seed of the posthuman idea – and material intervention – has immense implications for musical practice. As Barad puts it: “the smallest parts of

matter are found to be capable of exploding deeply entrenched ideas” [1, p. 3]

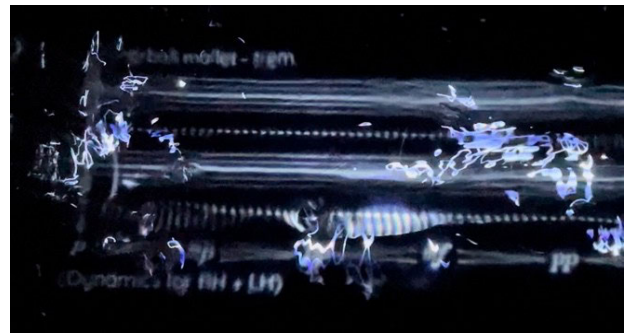
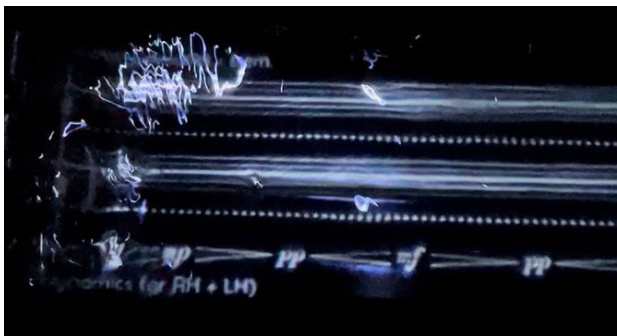
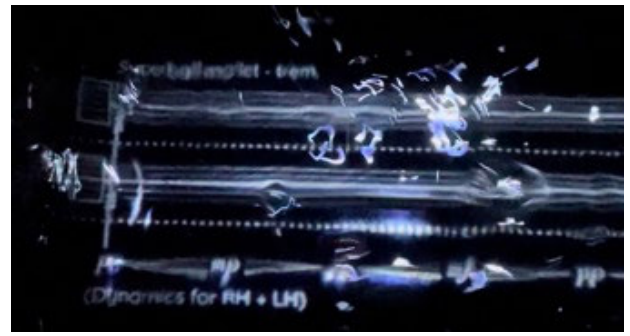
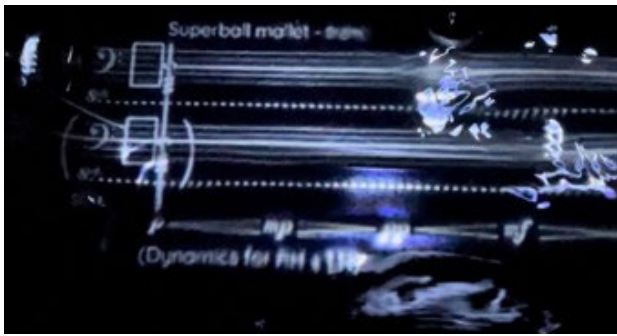
## 5. EARLY SKETCHES / WATERY TIME

My compositional methodology aims to play with the temporality of the medium, testing different types of materiality against goals of reformed, posthuman temporal understandings in my audiences. In this paper, I present two case studies of my notational approach within the genre of *performance-installation*. As this research is ongoing, at the time of writing I have no measurable results related to reformation in audience perspective. Rather, findings are derived from object-oriented observations and the dynamics of the performing ensemble. The works outlined in this paper serve as a starting point, the beginning of a new pathway of practice-based inquiry that I hope will evolve into a much larger research project. The outcome will be to observe “the multiple temporalities produced by the musical object” and measure the degree to which “they are informed by, and as they may drift from, the temporal ontologies of human actors, and as they interact with other heterogeneous trajectories of historical change” [2, p. 380].

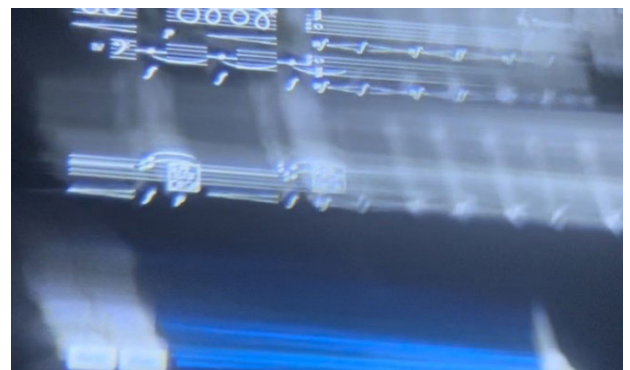
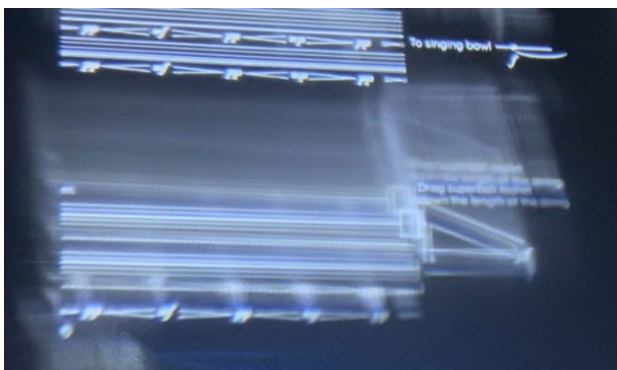
Experimentation (see Figures 1 through 8) began at a small-scale, prototype level in late 2022, with speculation as to how posthuman understandings of notation might be communicated to lay audiences. Perhaps easier than proving the inherent agency of a static object is observing agency in livelier nonhuman systems or materials. That is to say, where Barad and Bennet would transparently see a networked exchange of more-than-human forces even in the most canonical of music-making, the lay audience may struggle without the appropriate philosophical furnishing. In my compositional practice, I therefore refer to particularly dynamic non-human materials to more clearly demonstrate to an audience shared compositional agency. Perhaps for its ubiquity, I chose to use *water* as a material intervention in notational practice. What kinds of more-than-human creativity lie dormant in watery systems? How might we think about the past, present, and future across watery timescales?

These sketches together demonstrate a variety of what I have come to call *water graphics* – ephemeral, emergent graphical output from a digitally animated input and watery mediation. Each of these approaches constituted a different treatment of temporal linearity as represented by the stave, and the graphical results show distinct material characteristics of the water. I was particularly drawn to the results of Experiment #3, whereby the stave became curved according to the circularity of the vessel, and the dynamism of the distortion was entirely determined by the relative position of the viewer. As a purely compositional or graphical exercise, these experiments put forward a series of interesting provocations for the interpretation of the hypothetical performer.

“We mix language, gods, bodies, and thought with water to produce the worlds and selves we inhabit” [19, p. 3]. Here Jamie Linton refers not only to global anthropological understandings of water, but also the productive power



**Figures 1, 2, 3, and 4.** Experiment #1 from late 2022. Scrolling notation (using the Decibel ScorePlayer<sup>1</sup>) projected *onto* water and a matte black vessel. These images are stills from video footage—capturing ephemeral light phenomena as they are reflected off the water’s restless surface.



**Figures 5 and 6.** Experiment #2 from late 2022. Scrolling notation projected *through* water and a glass vessel. These images are stills from video footage—capturing the distortion of the notation as the light source is shifted.



**Figures 7 and 8.** Experiment #3 from late 2022. Scrolling notation projected *through* water and a spherical glass vessel. These images are stills from video footage—capturing the distortion of the notation from different angles as the viewer moves around the sphere.

<sup>1</sup> <https://decibelnewmusic.com/decibel-scoreplayer>

of water to impact society. He proposes an understanding of water as a dynamic process, that which might not be easily defined or understood in essential terms, but nevertheless with fluid material origin: “When we do contrive to slow down the flow for long enough to substantiate it in language, represent it in numbers, or confine it in Euclidian spaces, water transform and slips into impermanence” [19, p. 4]. A similar understanding of fluid logic is presented by the hydro-feminist scholar Astrida Neimanis, who recognises the conceptual usefulness of fluidity – particularly in a poststructural epistemological context – but nevertheless insists on the materiality of water as fundamental, lest discourse detach from abject, material realities: “I am not interested in fluidity and watery logic *only in the abstract...* It seems important that we pay attention to the specific ways in which water travels, and the specific kinds of bodies that certain waters comprise, transform, and dissolve” [20, p. 22].

So what can we learn from “think[ing] *with* water, and even learn[ing] *from* water” [20, p. 22] within the musical assemblage? Who or what stands to gain from centring lively watery processes in music-making? These are vast questions, with no immediate solution; only a longitudinal, collaborative, and multi-valent creative research process might go some way to answering them. In the meantime, I look to my three notational experiments for material clues.

Experiment #1 produced bright, ephemeral, and fragile graphics from the light reflected from the subtle movement of the water’s surface. A process of generative scoring, these graphics bring new meaning to that which we understand as *animated*: they are truly lively, and intimately dependent on the balance of more-than-human agencies in any given performance space – the temperature, the air pressure, the collective breath. In their fugitivity, these graphics reconstitute the present moment. Experiment #2 made indeterminate the visual constitution of the notation with hazy, unfocussed graphics. Furthermore, this mediation made the notation multiple – the stave expanded vertically as individual lines were compounded, with obvious implications for range, repetition, and rhythm. The results of this experiment speak to the *multiplicity* of watery time. Experiment #3, as expressed above, curved the stave around the spherical vessel, and merged the notation with reflections like a visual palindrome. This experiment I feel has the greatest potential for experiments in musical form as determined by water, and subsequent investigation into alternative musical temporalities.

## 6. CASE STUDY #1 – VISIONS | VESTIGES (2023)

Lay understandings of the posthuman in my work are further fostered by deliberate visual-thematic choices. *Visions | Vestiges* (2023)<sup>2</sup> is a performance-installation for bass clarinet, cello, percussion, live electronics, and sculptural notation (glass, water, antique wood). In this work, the



**Figure 9.** *Visions | Vestiges* (2023). The notational sculpture was assembled from a Victorian-Era music stand, a handblown glass sphere, water, and an iPad displaying animated notation generated in the Decibel ScorePlayer.

visual metaphor of a crystal ball speaks directly to commonplace understandings of object agency, temporality, and the more-than-human that many audiences (at least those across the Anglo-Celtic and European diaspora) will have been raised on since childhood. This work builds on the techniques of Experiment #3, whereby animated notation is distorted through the materiality of water and glass. The use of these materials, and their existing embeddedness in cultural context, contributes to the collaborative narrative of the performance work in which the audience is participant. Rather than dilute the posthuman message by scaffolding the work in metaphysical connotation, my hope is that reformed understandings of more-than-human agency in the musical assemblage will be made available to diverse, non-academic audiences.

This work constitutes the first of what I now call my *notational sculptures*, whereby notation is imbued with a heightened performative role within the musical assemblage. Assembled from a Victorian-Era music stand (that which was once used to store and display sheet music – the intended effect of which is a quasi-hauntological re-mediation of the past) and water encased within a handblown glass sphere, the crystal ball sculpture gives cultural, dramatic, and thematic context to the above-described graphic techniques of distorted musical linearity.

The passage of time, and the relationship between past and future are explored equally in the traditional compositional input – my own contribution a post-minimal approach to thematic material, structured with repetitive isorhythms that set each instrumentalist within their own individual temporality. The notation is designed to be read

<sup>2</sup> <https://www.youtube.com/watch?v=HqMcqMWPqg>



**Figure 10.** *Visions | Vestiges* (2023). A performance work for bass clarinet, cello, percussion, and electronics. The notation is distorted through the media of glass and water, disrupting the temporal linearity of the staff.

directly from the crystal ball, and the curious temporal distortions are explored in real-time by the performers. Unfortunately, due to logistical restrictions at the premiere event, the three musicians were unable to simultaneously read the watery mediation for the premiere performance – a design failure that relegated the notational sculpture to a more passive role in the musical assemblage than originally intended.

## 7. CASE STUDY #2 – *THE FORECAST* (2023)

Crucial to discerning whether the watery materiality of my notational approach is, in fact, generating alternative musical temporalities is the performers’ unimpeded access to the materials at hand. Reflecting on the logistical failures of *Visions | Vestiges* (the sculptural complement to the music-making was a key experiential factor for the audience, but the performers were estranged from this process despite being a lynchpin contingent of the musical assemblage) I set out to make another work that would have the musicians reading directly from watery graphics. *The Forecast* (2023) is a performance-installation for alto flute, viola, percussion (water gong, coin chimes, prepared vibraphone), spatial electronics, coins, and wishing well. An excerpt from my programme note reads as follows:

*The Forecast* is a performance-installation wherein water is a co-creator. Fragments of text circulate in a custom wishing well, and instrumental whispers mingle with the shards of light reflected by the water’s surface.

The text is sourced from weather reports in old editions of *The West Australian* [newspaper]... Combined with the visual metaphor of a wishing well, these archival texts encourage us to think about humanity’s historical entanglement with natural systems, and the methods we use – magical or scientific – to reconcile with these greater forces.

In this work, animated rings of text – the weather reports – are projected onto a shallow basin with a matte black



**Figure 11.** *The Forecast* (2023). Members of Decibel New Music Ensemble read generative water graphics from the wishing well. Photo by Edify Media.

surface, filled with water. Performers are not only required to interpret the text at an ‘instrumental whisper’ – a phonetic transcription to their idiom of their instrument – but also to interpret the ephemeral water graphics that are generated in real-time by oscillations in the surface tension of the water and the subsequent reflected light phenomena. This technique is reminiscent of Experiment #1, above. In *The Forecast*, I have provided the instrumentalists with a framework for interpreting these fleeting water graphics:

When the surface of the water is still, the projected notation remains largely undisturbed. However, as the surface tension of the wishing well changes, flashes of light reflect off the water, creating ephemeral graphic notation.

When these graphics occur *where you are reading your text* (on top of the text, or immediately adjacent to where you are reading), you respond. In these instances, the water graphics are read *instead* of the text, with no hesitation transitioning between the two. A specific technique (or in the percussionist’s case, a specific instrument) is reserved – and must only be used – for the generative water graphics when they occur:

- i. Alto Flute: Whistle tones.
- ii. Viola: Natural and artificial harmonics.
- iii. Percussion: Coin chimes.

Be guided by the aesthetic of the generative graphics – light, ephemeral, dynamic – in your improvisation.

As with *Visions | Vestiges*, this work furnishes the socio-cultural context of the music-making with a folkloric reference that draws on themes of temporality and non-human agency – the wishing well. Again, the notation assumes a lively role in this performance work, plainly agentic in the eyes of the audience. The *visual liveness* of this generative, watery system meant that the performers’ structured improvisation was strung with a present awareness shared by the audience. One member of Decibel

described his experience of the temporality of this notation as “heightened”, his relationship to the present moment re-constituted. Further experimentation is warranted to explore to full musical-temporal potential of these water graphics, and their impact on the balance of agencies within the musical assemblage. The implications of watery aesthetics in notation are yet to be fully determined. For now, *The Forecast* stands as my most developed integration of self-governing natural systems into notation, and my best attempt at a radical renegotiation of compositional agency in a posthuman frame of reference.

## 8. CONCLUSIONS

The complex connections between objecthood, time, and music-making are evident in the performance-installation outcomes of my research, whereby the score functions as a lively musical object in the present, but also exists as an artefact that moves in, on, and across past and future. Emphasis on the objecthood of the score facilitates a parallel emphasis on the materiality of the score, and how musical information is always mediated. Objecthood asserts the agency of the score in space, and makes tangible the trajectory of the musical object through time – a past and future that is separate from any individual human influence. In the case studies I have discussed in this paper, the score is a non-human actor in the musical assemblage.

The potential for headway to be made in notational technologies is significant when more-than-human logics and systems are given due acknowledgement. Within a new materialist framework, the role of the composer (as it stands amongst the scaffolding of inherited ideologies of Western Art Music) is disrupted. Unimpeded material access to the score-object – in this instance, water – for the performers and audience has proven to be a significant intervention in the musical assemblage. This research has scope to be greatly expanded in the future, particularly regarding methods of data gathering from performers and audiences, which has thus far been missing from my research design.

As I have mentioned periodically throughout this paper, my research is grounded in an ethical imperative – the complex negotiation of human and more-than-human agencies in music-making, and (more broadly) the politics of co-existence with vital materialities. I feel that it is important to speak with specificity, not only for the sake of an efficient research process, but also for the explicit communication of ethical discourse. Where water is concerned as the specific material subject of my investigation, a range of ethical imperatives arise: “Our ‘making’ of water as an imaginary is necessarily forged in the entanglement of our values with the very material matter at hand. It follows that our ‘making’ of water also includes all of the problematic ways we currently *remake* and *unmake* it – as dirty, depleted, de-territorialised, for example” [20, p. 21]. Our treatment of water – the way we approach (or dismiss) the substance as an agentic and creative force – informs the limits of our creative potentials as a posthuman musical collective. In a precarious social, political, and ecological context, the subject of futurity is of existential concern.

Material approaches to music notation, and the posthuman temporal learnings we might glean from them, might be a small yet important part of the solution.

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