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WHAT IS IT LIKE TO BE A TREE? SONIC LAYERS, DOUBLENESS, AND ECOLOGY IN MARTIN IDDON'S *SAPINDALES*¹

Edward Campbell, Jonathan De Souza, Björn Heile, Oli Jan, Nikki Moran

Abstract: In this collaborative account of Iddon's *Sapindales*, the authors recount how their experiences of live and virtual clarinet sounds and environmental sounds combine in varied ways. By focusing on relationships among sonic layers, the authors emphasize the dynamic interplay of live and recorded performance, music and environment, the real and the virtual, the abstract and the concrete. Each relationship involves mediation and ambiguity, with elements that alternatively split apart or join together. The listening outcomes that we describe repeatedly highlight a positional swing between subject and object, as the authors reach across explanatory modes, drawing on phenomenology, musicology, psychoanalysis and ecological psychology, among others. We aim to capture the process of aesthetic listening, a process that is live, interactive, constructive, imaginative.

At the beginning, there is a woman with a clarinet on a darkened stage (see Figure 1). As she pushes a key on a laptop, the auditorium is flooded with birdsong. Slowly, undemonstratively, she puts her instrument to her lips, but before she can produce a note, low, almost rumbling clarinet sounds fill the air. These bass frequencies – too deep for the performer's conventional B ♭ clarinet – seem to emanate from a virtual space, cyberspace or a transcendental beyond. Yet we instinctively associate the sounds with the instrument we see. Indeed, the tape has been recorded by the same performer (Heather Roche), though listeners would not necessarily know this. Eventually, she produces keening, long drawn-out glissandi in the instrument's upper register. The stillness of the performer and the darkness of the surrounding stage contrast with the mobility of the live and recorded environmental sounds. At the beginning of the performance, we cannot be sure where the sounds are coming

¹ The title is obviously a reference to Thomas Nagel's paper 'What is it like to be a bat?' Thomas Nagel, 'What Is It Like to Be a Bat?', *The Philosophical Review* 83, no. 4 (1974), pp. 435–50, <https://doi.org/10.2307/2183914>. Any similarity between Nagel's approach and ours is probably limited, although we are sympathetic to his subjectivist position. We also believe that art and music allow experimental, imaginative re-embodiments. It is no longer fanciful to suggest that trees may have a form of consciousness, although what this 'is like' for them is probably beyond our comprehension or imagination.

from and how they have been produced, but over time it is possible to distinguish three layers: the music performed live before our eyes, further (bass) clarinet sounds from the tape, and environmental sound, mostly of birdsong but mixed with other sounds such as wind in the trees and background traffic. These three layers can be divided in different ways: one division would separate the clarinet sounds (both live and recorded) from the environmental sounds; another would put the live performance on one side and the fixed media (encompassing both clarinet and environmental sounds) on the other (see Figure 2). The pre-recorded bass clarinet sounds, then, can be grouped either with the live clarinet sounds or with the other fixed media, and that flexibility might contribute to the shape-shifting effect of this multi-layered piece.



Figure 1: Heather Roche performing Martin Iddon's *Sapindales*

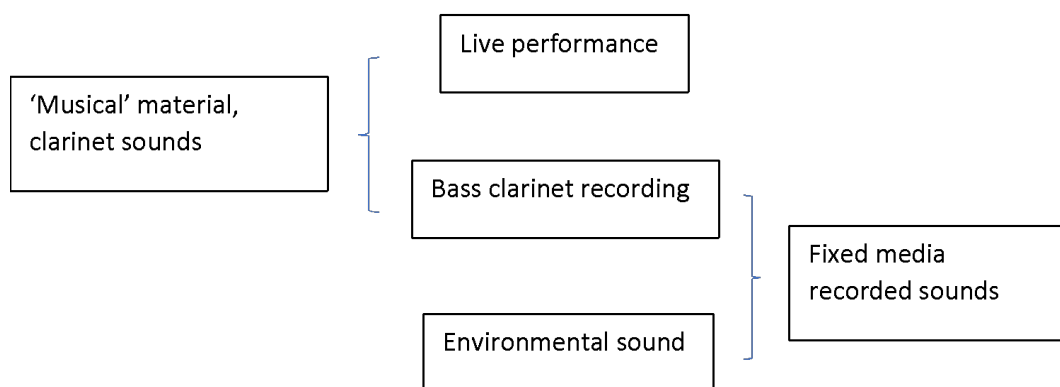


Figure 2: Sonic layers in Martin Iddon's *Sapindales*

This is the beginning of *Sapindales* for clarinet and fixed media (2016–2020) by Martin Iddon, specifically its first live performance at the Sound Festival Aberdeen in October 2021.² In this article, we investigate listening experiences of the work. Though we consider sources such as the score, recording and composer's programme note, we privilege the initial aesthetic encounter and our attempt to make sense of the piece's sonic worlds. In other words, we focus on listening in its processual, moment-to-moment quality, rather than a retrospective, synoptic bird's-eye view. The account is collectively written in a process that blends individual and shared responses, overlapping but distinct perspectives.

The consequent analyses and descriptions offer a plethora of listening outcomes, with the common quality of yet-to-know that characterises imaginative, aesthetic experience. We follow a broadly phenomenological approach, informed variously by Martin Heidegger's idea of 'worlding', Maurice Merleau-Ponty's approach to embodiment, and James J. Gibson's concept of the environment, among others. And we specifically emphasize relations among the three layers in the composition: again, live performed music, pre-recorded music and pre-recorded environmental sound. After an initial description of the listening experience, we examine the embodied performer's duet with her virtual self (the relation between live performance and pre-recorded music), before turning to the natural, built and virtual spaces of performance and recording (the relation between music and environmental sound). Ultimately, these relations in *Sapindales* prompt more general reflections about the real and

² A video recording of the performance is available at <https://youtu.be/9VAK2H54ptw> (accessed 27 September 2022). A CD production of the work has been issued: *Martin Iddon – Sapindales*, Another Timbre, at 179: <http://www.anothertimbre.com/sapindales.html> (accessed 27 September 2022).

virtual bodies that make and listen to music, the real and virtual space(s) of music and performance, and even human and non-human temporalities or worlds.

Sonic layering

While listeners may differentiate the sonic whole of *Sapindales* into three layers, this organisation is far from straightforward. The streams merge and divide again, and this process is affected not only by listeners' auditory perceptions but also by visual interpretation. On some occasions we can see the performer play what we hear, since the music appears to match her movements; on others music is emanating from the speakers while she stands still, listening to her virtual self; and in some cases it is impossible to say which is which. Here we can easily be misguided, either attributing sounds to the player that we later recognize as coming from a virtual space or, conversely, assuming that sounds are taped only to find that they are produced live by the performer. While, on the one hand, there is something like a metaphysical divide between the live and the taped sound, this is constantly being crossed in both directions. There are even audible beatings between notes produced on stage and by the recording: it is as if worlds collide.

The low clarinet sounds at the start of the piece evoke a subterranean world suggestive of the roots of the eponymous sapindales (a large family of flowering plants, which includes maples, citrus and mango trees, and trees that produce frankincense and myrrh). These root-like sounds contrast markedly with the aerial lightness of the birdsong. This division recalls the 'hi-fi environment' discussed by R. Murray Schafer, where 'there is perspective-foreground and background' and 'even the slightest disturbance can communicate vital or interesting information'.³ As outlined, however, the clarinet in *Sapindales* may alternately function as foreground and background. Thus, two conflicting properties are condensed in the clarinet sound. 'Condensation' here can be understood both in a psychoanalytical and physical sense. For Sigmund Freud, condensation refers to the experience in which several separate concepts or identities are represented by one single object in a dream.⁴ In physics, condensation refers to the change from gas to liquid state. As such, the dual meaning of the term seems to capture the dual nature of the clarinet. In one sense the perceived clarinet is a

³ R. Murray Schafer, *The Soundscape: Our Sonic Environment and the Tuning of the World* (Simon and Schuster, 1993), p. 48.

⁴ Sigmund Freud, *The Interpretation of Dreams*, trans. Joyce Crick and Ritchie Robertson (Oxford: Oxford University Press, 1999), Chapter 4.

dream-like amalgamation of live and pre-recorded instruments, soprano and bass clarinet. In another sense the clarinet seems to change states, a solid object at one moment and ephemeral sound at the next. This doubleness results in an unsettling, ever-changing shift of focus between the woody, chanting sound of the clarinet that sings in the air and the twittering birds and rumbling machines that echo among the woods.

This interplay also recalls animal communication in natural environments, where different species' communicative noises fit into unique 'spectral niches' and have distinct rhythmic cycles.⁵ An equilibrium is achieved when all the creatures vocalise in the same environment, but they can all be heard. Vocalisations have survival functions and the accommodation of calls across respective spectral and rhythmic ranges is necessary for biodiversity to be sustained. As such, habitats with greater biodiversity usually exhibit higher 'acoustic space use', understood as the ratio of time and frequency ranges occupied by particular vocalisations. This appears to be emulated in *Sapindales*, with its registral divisions between birdsong and clarinet sounds, as well as, less clearly, between live-performed and pre-recorded clarinet sounds. In addition, dynamic balance is essential, and, although the score does not specify dynamic values, the clarinet sounds remain in a soft, piano range that never completely overpowers the birdsong. In this sonic environment, the clarinet sounds appear no less organic and alive than the birdsong. At times the clarinets and birds seem to respond to one another, in variously alternating and overlapping phrases, sometimes developing into something like counterpoint. But at other times they seem to be oblivious of or indifferent to one another.

As we listen to these shifting layers, the performer focuses and guides our attention, not only by what she plays but also as an exemplary listener whose auditory alertness encourages us to join her in attending to the unexpected sounds which emerge. She stands with disciplined stillness throughout in a comportment of quasi-erasure as an active agent, as if reduced to a Beckettian point of consciousness in the relative darkness. With still body and impassive face, her fingers move carefully, all the while hidden behind a music stand which only serves

⁵ Bernie Krause, 'The Niche Hypothesis: A Virtual Symphony of Animal Sounds, the Origins of Musical Expression and the Health of Habitats', *The Soundscape Newsletter* 6 (1 June 1993), pp. 6–10; Arne K.D. Schmidt, Heiner Römer, and Klaus Riede, 'Spectral Niche Segregation and Community Organization in a Tropical Cricket Assemblage', *Behavioral Ecology* 24, no. 2 (1 March 2013), pp. 470–80, <https://doi.org/10.1093/beheco/ars187>.

to further emphasise the secretive nature of the event. Though incidental to the overall effect the performer's attire – a long, robe-like dress – might even suggest a ritualistic context where a primal wind instrument summoned to life by human breath communes with wind, bird and other earthly sounds.

Double trouble

There is something uncanny about the performer's duet with her sonic doppelgänger, the ghostly presence that is heard but never seen. More than a hundred years after the invention of sound recording, we are accustomed to hearing recorded performances, but the effect is different when part of what we hear is played live, calling attention to the absence of an embodied manifestation of the remaining parts. Furthermore, when we misattribute tape sounds to the player and vice versa there is a discrepancy between what we see and what we hear. In such cases our impulse for embodied empathy might be derailed: we can direct our attention to the performer in bodily sympathy with the way she enacts the music, or we can respond to the taped sounds, moving with the music (actually or mentally) and sensing how it feels in the body; but if these two modes come into conflict, the rug is pulled from beneath our feet, as our impulse for mimetic participation is led astray.⁶ The effect is something like watching inexperienced lip-synching or a film with an out-of-synch soundtrack. Iddon's set-up is fairly simple – just a fixed-media file and live performance – and there is never any explicit attempt to deceive us here, by miming or using performance techniques that deliberately obscure the relation between instrumental action and sonic result. Nor are technological means employed to that end. Nevertheless, there is a high degree of uncertainty as to the nature of the sounds and their origins.

Digital technology has, of course, complicated the relation between sight and sound. There are relatively low-tech instances of this, such as KT Tunstall's breakthrough performance of 'Black Horse and the Cherry Tree' on the BBC's *Later...with Jools Holland*, in which she built up several backing tracks for herself with loop pedals.⁷ But there are also more elaborate

⁶ cf. Arnie Cox, *Music and Embodied Cognition: Listening, Moving, Feeling, and Thinking*, Musical Meaning and Interpretation (Bloomington, Indiana: Indiana University Press, 2016).

⁷ <https://youtu.be/FGT0A2Hz-uk> (accessed 15 June 2022). This became something like her theme song, and there are recent performances in which she uses the set-up more virtuosically. There is something special about the rawness of the 2004 version, however: Tunstall's nervousness is palpable, and we are forced to empathise and experience the fear that something might go wrong, just as we share her evident relief and delight when it doesn't.

examples, such as Pat Metheny's *Orchestrion*, in which the musician triggers a host of mechanical instruments with his MIDI guitar, delighting in seemingly old-fashioned technology which is, however, enabled by digital signals,⁸ and the recent 'ABBAtar' extravaganza where the iconic Swedish pop band were projected into a live performance space in ways that were apparently convincingly realistic.⁹ What these examples show is that, despite a long history of habituation to recorded sound, there is a continued desire to see sound being created, but also a pleasure in playing with and manipulating the relationship between visual sound source and perceived acoustic outcome.

It is worth reminding ourselves that in literary and cultural history, doubles, doppelgänger, spectres and alter egos are fateful figures.¹⁰ There is nothing scary about the sonic double of the clarinettist in *Sapindales*. And yet... maybe a more specific reference is ventriloquism: this player has no dummy, but, while some of the sounds are issuing from her, others, although produced by her, are disconnected from her. As Steven Connor explains, ventriloquism is unsettling because it challenges the relation of sight and sound and how they govern our perception of space:

Ventriloquism is usually thought of as a phenomenon of sound, as the power of creating specifically aural or vocal illusions. [...] The fascination and the menace of ventriloquism derived from a belief that it represented the power of sound to countermand the evidence of sight. When we hear a voice from nowhere—from thin air, as we say—or from some improbable location (the belly of a prophet, the depths of the earth) we hear something which our eyes assure us is not possible. The belief that ventriloquism is primarily a matter of the voice and ear, acting, or being acted upon autonomously, and evading the customary government of the eye, is remarkably persistent. The understanding of ventriloquism will necessitate an investigation of the relations of priority between the different senses, and especially the senses of sound and sight. In so far as the eye may be associated with the government of space (the ordering of objects in space, and the governing effect of spatiality itself), the disturbing effect of ventriloquism may derive from its transcendence or disruption of seen space. This is not a transcendence of space itself, although it may appear as such. Both eye and ear operate in, and require space; but the synesthetic relations of eye and ear are asymmetric, in that the eye and the ear have different kinds or qualities of space. The

⁸ cf. Jonathan De Souza, "'All Sights Were Perceived as Sounds': Pat Metheny and the Instrumental Image", in *Watching Jazz: Encounters with Jazz Performance on Screen*, ed. Björn Heile, Peter Elsdon, and Jenny Doctor (Oxford University Press, 2016), pp. 147–68, <https://doi.org/10.1093/acprof:oso/9780199347650.003.0006>.

⁹ Andrew Trendell, 'ABBA Voyage's Creators Tell Us How They Made the Show, and What's Next', *NME* (blog), 28 May 2022, <https://www.nme.com/news/music/abba-voyages-creators-hologram-choreography-how-it-was-made-interview-3235706>.

¹⁰ Karl Miller, *Doubles: Studies in Literary History* (Oxford University Press, 1985).

space of hearing is not ungoverned in comparison with the space of the eye; but it is differently governed.¹¹

As he goes on to explain, quoting Walter Ong, '[s]ound situates man in the middle of actuality and in simultaneity, whereas vision situates man in front of things and in sequentiality'¹². It is perhaps unsurprising then that, before its appearance in popular entertainment (such as music hall), ventriloquism was often associated with the supernatural. The priests acting as conduits for the Greek oracle used ventriloquism, and the oracular voice spoke from the beyond. Heather Roche is no Pytha, and there is little or no mystery about the source of the sounds, but that does not mean that *Sapindales* lacks magic. We see the performer play and we hear sound issuing from somewhere else.

Sapindales is not the first composition that confronts live performance with recordings of the same instrument and player. Instead Iddon participates in and responds to an existing tradition. For instance, Steve Reich has written a number of relevant pieces, including his early experiments with phasing, such as *Violin Phase* (1967). While the ghostly traces of multiple versions of the same phrase might seem eery and the constant repetition suitably 'robotic' (in keeping with post-war evocations of technology), phasing is a very special effect. Reich's Counterpoint series is perhaps a more suitable comparison, notably *New York Counterpoint* (1985), which, like *Sapindales*, is for clarinet. Still, the effect seems quite different: in *New York Counterpoint*, there is a clear separation between the live performance and the tape, like a soloist playing with accompaniment or even a practice track.

Pierre Boulez's *Dialogue de l'ombre double* (1985) is arguably closer to *Sapindales*. *Dialogue* is inspired by a scene in Paul Claudel's *Le soulier de satin* (1924), which Boulez knew from his work for the Renaud-Barrault theatre company. In scene 13, 'L'ombre double' (Double Shadow), the outlines of the two characters, a man and a woman, are projected onto a wall, an idea that, according to Boulez, 'corresponded perfectly to the dialogue of the clarinet playing with itself in my piece'.¹³ But it is a dialogue, not a duet: as Joe Rogers

¹¹ Steven Connor, *Dumbstruck - A Cultural History of Ventriloquism* (OUP Oxford, 2000), pp. 14–15.

¹² Connor, p. 15.

¹³ Boulez, quoted from Sarah Barbedette, 'DIALOGUE DE L'OMBRE DOUBLE: Lecture d'un Titre Au Kaléidoscope', *Bulletin de La Société Paul Claudel*, no. 209 (2013), p. 53.

points out, the live and taped parts only come together at the end; before that, they respond to one another but do not overlap.¹⁴ Furthermore, the taped parts are distributed spatially around the audience in a complex set-up. In other words, there is a clear distinction between the clarinet and its shadow, unlike the frequent overlaps and merging of parts in *Sapindales*. The comparison that comes close to its disquieting effect is Brian Ferneyhough's *Mnemosyne* (1986) for bass flute and pre-recorded tape. It is the only piece, among those discussed here, that starts with live performance, to which sonic shadows are added one by one (there are up to eight parts). It is a powerful effect, but, again, the live sound and its recorded shadows remain mostly separate; the live performance seems more agile than its largely chordal sustained 'accompaniment'.

None of these pieces directly engages with the more uncanny aspects of doubleness and ventriloquism, not least because there is no overt theatrical dimension. A truly disturbing example of this is Steven Kazuo Takesugi's *Sideshow* (2009-15) which combines playing, miming and pre-recorded playback in variously comical and nightmarish fashion. Although Iddon¹⁵ has acknowledged the significance of Takesugi's work, *Sapindales* lacks the former's overt theatricality, and, formally at least, is more akin to the earlier examples discussed, which do not develop the intermingling of live and tape, embodied and virtual self, real and imaginary space to the same extent as *Sapindales*. This also raises questions about the relationship between the human and the machine, or, considering the birdsong and environmental sounds, the human and nature. In earlier works by Boulez and Ferneyhough, the human being is at the centre; in *Sapindales*, she has cyborg-like qualities while also being enveloped by nature.

Environment and space

Like *Sapindales* as a whole, the fixed media part includes multiple sonic layers. From the start, birds sing. Different kinds of birds—or, at least, different kinds of birdsong—appear here: whistling, twittering, or calling. Some are closer; others, whose sound is quieter and less focused, seem farther away. The birds' chatter continues throughout the performance, yet it sometimes swells or dies down to a murmur. At times, the wind rustles. And occasionally, the

¹⁴ Joe Rogers, 'Dialogue de L'Ombre Double: Construction by Assemblage', *Perspectives of New Music* 38, no. 2 (2000), p. 38, <https://doi.org/10.2307/833658>.

¹⁵ 'Sapindales', 23 April 2023.

low rumbling of distant traffic approaches and recedes. Together, these layers evoke a natural environment, presenting a soundscape that combines animals, weather, and human technology. Moreover, the sounds themselves are naturalistic: they seem unprocessed and unedited, close to what we might hear with our own ears in the woods. The continuous audio, twenty-one minutes long, seems captured, not composed. In this respect it exemplifies Friedrich Kittler's claim that sound recording captures a trace of the real, instead of encoding sound via symbolic representation, as in writing or musical notation.¹⁶ Like other forms of storage and transmission media, the recording manipulates both time and space, offering an echo of a particular moment, a particular place.¹⁷ As listeners, we cannot precisely identify that time or place. Yet it is not surprising to learn from the composer's programme note that the environmental sound was 'recorded at Moorlands Nature Reserve in York, at the site of a felled snake bark maple.' It is a field recording of an environment.

We always inhabit an environment. This situatedness is an essential feature of existence for humans, birds, trees, and other embodied beings. The ecological psychologist James J. Gibson insists that 'there is only one world, however diverse, and all animals live in it [...]. We all fit into the substructures of the environment in our various ways, for we were all, in fact, formed by them. We were created by the world we live in.'¹⁸ The environment provides the conditions for life – air, water, and nourishment – and for organisms, as Gibson emphasises, it provides the conditions for perception. From the ecological standpoint, vibrations are produced by physical interactions; they are full of information about the world. But without the air, as a medium that 'affords the perception of vibratory events by means of sound fields', we could not hear the birds sing.¹⁹

Similarly, the phenomenologist Maurice Merleau-Ponty argues that every theory of the body is also a theory of the body's integration with a world, that bodily perception is also worldly perception.²⁰ Whereas Gibson insists that there is a single world, both physical and mental, Merleau-Ponty distinguishes between two bodily modes of relating to the world, concrete

¹⁶ Friedrich A. Kittler, *Gramophone, Film, Typewriter* (Stanford University Press, 1999), pp. 154–55.

¹⁷ Friedrich A. Kittler, *The Truth of the Technological World: Essays on the Genealogy of Presence* (Stanford University Press, 2014).

¹⁸ James J. Gibson, *The Ecological Approach to Visual Perception: Classic Edition* (Psychology Press, 2014), p. 130.

¹⁹ Gibson, p. 151.

²⁰ Maurice Merleau-Ponty, *Phenomenology of Perception* (Routledge, 2013), 212.

movement in physical space, and abstract movement in a projected ‘virtual or human space’: ‘the first takes place within being or within the actual, the second takes place within the possible or within non-being; the first adheres to a given background, the second itself sets up its own background.’²¹ The fixed media part in *Sapindales* combines these modes. Obviously, it was recorded and played back in actual places (a nature reserve in York, a concert hall in Aberdeen). Yet the sound also projects virtual spaces: phenomenologically, the audience simultaneously inhabits the concert hall, the virtual woods, and a still more abstract sonic space of recorded and live clarinet tones. (Likewise, when we watch the performance of *Sapindales* on video, we inhabit a present location and also, virtually, the distant concert hall.) For Merleau-Ponty, music in general has the capacity to open up virtual sonic worlds, so concert halls involve a kind of spatial multiplicity:

In the concert hall, when I reopen my eyes, visible space seems narrow in relation to that other space where the music was unfolding just a moment ago, and even if I keep my eyes open during the performance of the piece, it seems to me that the music is not truly contained in this precise and shabby space. The music insinuates a new dimension across visible space [...].²²

It is important to note that abstract movement and virtual space are not disembodied but rely on bodily capacities. Even in this imaginative new dimension the body remains ‘our general means of having a world’.²³

Given the interrelation between abstract movement and virtual space, it is unsurprising that music is often understood not only as a metaphorical moving body, but also as a metaphorical landscape.²⁴ In this landscape metaphor, listeners travel through the music like passengers on a train. They might traverse the ups and downs of dynamic or textural hills and valleys. They might pass or return to recognizable formal landmarks or stations along the way. And though the music might wander, listeners generally reach some final musical destination, such as a cadence or other ending that feels like a point of arrival, perhaps even a homecoming. As with so much language about music the landscape metaphor relies on cross-domain

²¹ p. 115.

²² pp. 230–31.

²³ Merleau-Ponty, p. 147.

²⁴ Mark L. Johnson and Steve Larson, “‘Something in the Way She Moves’-Metaphors of Musical Motion’, *Metaphor and Symbol* 18, no. 2 (1 April 2003), pp. 63–84, https://doi.org/10.1207/S15327868MS1802_1.

mapping.²⁵ It can help us understand sound in terms of bodily experiences of journeying through the world.

But this metaphor does not easily apply to *Sapindales*. The fixed media part does not seem to take us on a journey or lead us toward some telos. The field recording is not static, but the sonic variation in it does not seem to correlate with the listener's own movement: the birds change volume according to their songs; the dynamics, pitch, and timbre of the traffic noise gives information about objects approaching and retreating. This field recording is very different, then, from the recording of a sound walk, where the auditory perspective would seem to move through different sonic locations. Instead, the spatial position of the fixed media is, well, fixed.

What the piece seems to invite, then, is a kind of grounded or rooted listening. Instead of a journey, it feels like sitting under a tree. In this respect, *Sapindales* might encourage aesthetic responses that feel meditative or constrained, depending on how the listener values the composition and performance. This is also theoretically productive, insofar as many theories of embodiment—including theories of musical embodiment—prioritize action. This is not only one-sided since all humans need passivity: we cannot live without sleep and other forms of rest. These are important aspects of our embodied experience, so our theories and artworks would do well to value this essential aspect of our embodiment.²⁶ Moreover, overemphasising action and movement can have the effect of prioritising masculinity and able-bodiedness.²⁷ As the fixed media evokes corporeal stillness, it can also contribute to a sense of temporal stillness.²⁸ It feels like a long, extended moment that could continue

²⁵ See Lawrence M. Zbikowski, *Conceptualizing Music: Cognitive Structure, Theory, and Analysis* (Oxford University Press, 2002).

²⁶ Maurice Merleau-Ponty, *Institution and Passivity: Course Notes from the Collège de France (1954-1955)* (Northwestern University Press, 2010), part 2.

²⁷ See Gail Weiss, *Body Images: Embodiment as Intercorporeality* (Routledge, 2013); Don Ihde, *Bodies in Technology* (U of Minnesota Press, 2002), pp. 17–18; Joseph N. Straus, *Extraordinary Measures: Disability in Music* (Oxford University Press, 2011).

²⁸ Mariusz Kozak *Enacting Musical Time: The Bodily Experience of New Music* (Oxford University Press, 2019), p. 189, critically examines the relation between corporeal stillness, temporal stillness, and musical stillness, arguing that very slow music can afford distinctive bodily orientations and affective states. Kozak notes that stillness is never absolute for a living body: micro-movements (what he calls 'all the different flickers and wiggles and throbs of the body') are unavoidable, and high-speed video recordings can make these micro-movements visible by slowing them down. (We might add that even plants are not absolutely still, and time-lapse photography can make their movements visible by speeding them up.) On the musical significance of micromovements, see also Jensenius, Bjerkestrand, and Johnson 'How Still Is Still? Exploring Human Standstill

indefinitely. The sonic environment, then, does not have a journeylike starting and ending point; it seems to exceed or transcend human time, as an environment that existed before humans (and could also outlast us). As Gibson notes, ‘the environment as a whole with its unlimited possibilities existed prior to animals. The physical, chemical, meteorological, and geological conditions of the surface of the earth and the pre-existence of plant life are what make animal life possible.’²⁹

More speculatively, might the stillness in *Sapindales* project a kind of being that is associated with plant life? Might it insinuate a kind of nonhuman embodiment that does not require locomotion, with a timescale that seems impossibly slow to humans? Might it help us imagine what it is like to be a tree, offering a home to birds, bending in the wind? Obviously we humans can never fully commune with non-conscious lifeforms. Yet this interpretation recalls some interesting compositional details. The field recording, after all, was captured at the former site of a snake bark maple tree. In a sense, this sonic environment is what that specific tree would have heard. As mentioned earlier, the title *Sapindales* refers to the family of flowering plants that includes maples and the piece builds on earlier works by Iddon that were inspired by hamadryads, mythical spirits that are bonded to trees. Because of the essential relation between organism and environment or body and world, the fixed media part for *Sapindales* does not merely present a virtual sonic space but also evokes distinct, possibly plant-like, ways of moving and being.

Conclusions

In our experiences of *Sapindales*, live and virtual clarinet sounds and environmental sounds combine in varied ways. By focusing on relationships among sonic layers, we have emphasized the dynamic interplay of live and recorded performance, music and environment, the real and the virtual, the abstract and the concrete. Each relationship involves mediation and ambiguity, with elements that alternatively split apart or join together. The listening outcomes that we have described repeatedly highlight a positional swing between subject and object, as the authors reach across explanatory modes, drawing on phenomenology, musicology, psychoanalysis and ecological psychology, among others. Here we aim to

for Artistic Applications’, *International Journal of Arts and Technology* 7, no. 2/3 (2014), p. 207, <https://doi.org/10.1504/IJART.2014.060943..>

²⁹ Gibson, *The Ecological Approach to Visual Perception*, p. 128.

capture the process of aesthetic listening, a process that is live, interactive, constructive, imaginative.

This process might be understood in terms of Heideggerian ‘worlding’. Discussing a van Gogh painting of shoes, Heidegger argues that the artwork reveals a rich human context—of everyday life, work, culture, and so forth—that surrounds the shoes and gives them purpose.³⁰ The artwork takes us ‘somewhere other than we are usually accustomed to be’. It sets up a world that is neither a fixed object nor a subjective projection but which actively engages us in meaning and relationships: a world that ‘worlds’.³¹ Similarly, our responses to *Sapindales* emphasise not isolated abstract sonic objects but processes of musical worlding. Unusual worlds, full of sonic shadows or listening maple trees, emerge from the juxtaposed elements in the piece and the intermediate spaces between.

Roche’s delivery is central throughout this process. Her performance involves particular embodied, kinaesthetic choices which contribute to the piece’s aesthetic ambiguities. The spell is only broken when she finally raises her eyes, indicating that the performance is over. Just as the music seems to have started before the piece’s actual beginning, it feels like it could continue forever. In this respect too it seems more akin to a natural soundscape than a composition with a beginning, middle and end and a clear trajectory or narrative linking these points. Through Roche’s performance and the fixed media, *Sapindales* sets up a world, not an object.

³⁰ Martin Heidegger, ‘The Origin of the Work of Art’, in *Off the Beaten Track*, ed. Julian Young and Kenneth Haynes (Cambridge: Cambridge University Press, 2002), p. 15. Heidegger’s interpretation of the painting—which assumes that the shoes belong to a ‘peasant woman’—is controversial. In a critique of Heidegger, the art historian Meyer Schapiro ‘The Still Life as a Personal Object—A Note on Heidegger and van Gogh’, in *The Reach of Mind: Essays in Memory of Kurt Goldstein*, ed. Marianne L. Simmel (Berlin, Heidelberg: Springer, 1968), pp. 203–9, https://doi.org/10.1007/978-3-662-40265-8_14, argues that the shoes belonged to van Gogh himself: For discussion of Heidegger and Schapiro, see Derrida ‘Restitutions’, in *The Truth in Painting*, ed. Geoffrey Bennington and Ian McLeod (Chicago, Ill. ; London: University of Chicago Press, 1987), pp. 255–382. and Sassen ‘Heidegger on van Gogh’s Old Shoes: The Use/Abuse of a Painting’, *Journal of the British Society for Phenomenology* 32, no. 2 (1 January 2001), pp. 160–73, <https://doi.org/10.1080/00071773.2001.11007327>., among others.

³¹ Martin Heidegger, ‘The Origin of the Work of Art’, in *Off the Beaten Track*, ed. Julian Young and Kenneth Haynes (Cambridge: Cambridge University Press, 2002), pp. 22–23.