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Abstract: Michael Pisaro's fields have ears is a series of ten pieces that embody an ecological approach to composition. The guiding idea behind the series is that the location of a sound is as (or more) important than its timing, and that how a listener understands a sound is affected by both the listener's and the sound's position in space. This paper uses the series as an exemplary example of James Gibson's ecological thought in composition through its foregrounding of motion and space, and its creation of uncanny virtual worlds combining musical sounds, noise, and field recordings. It also explores the idea that Gibsonian perception has significant affinities with Kyoto School aesthetics, and analyzes Pisaro's music utilizing methodologies from both disciplines.

Résumé : L'œuvre fields have ears, de Michael Pisaro, est une série de dix morceaux qui incarnent une approche écologique de la composition. L'idée maîtresse de cette œuvre est que la localisation d'un son est aussi importante (voire davantage) que sa situation temporelle, et que la façon dont un auditeur comprend un son est affectée par la position dans l'espace à la fois de l'auditeur et du son. Cet article considère cette œuvre comme exemplaire et représentative de la pensée écologique de James Gibson au sujet de la composition, car elle met au premier plan le mouvement et l'espace, et crée d'étranges mondes virtuels en combinant des sons musicaux, des bruits et des enregistrements de terrain. Il explore également l'idée que la perception gibsonienne présentait des affinités significatives avec l'École esthétique de Kyoto, et analyse la musique de Pisaro en utilisant des méthodologies issues des deux disciplines.

The seminal work in the application of James and Eleanor Gibson's ecological approach to perception in the field of musicology was Eric F. Clarke's 2005 book *Ways of Listening*. In the decade following its publication, the ecological approach has made significant inroads within musicology. The shift toward a focus on how music is perceived by a listener or listeners was

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a necessary corrective to structuralist, score-based approaches to the analysis of music. Focusing on the individuality of each listener and the unique set of abilities each brings to his/her understanding of a piece of music has led to significant musicological insights, while having the great virtue of being more true to the actual lived experience of music in most people's lives.

The developing field of ecological musicology is listener focused, often (deliberately) excluding composers' and performers' intentions, intuited or known. This is an admirable stance from the point of view of listeners who seek to understand more about how music is perceived and interpreted by other listeners or communities of listeners. However, it sometimes seems to forget that both performers and composers are also listeners whose individual perceptions of and reactions to the music contribute to the experience of each audience member. In this paper, I will explore what it might mean to perceive music that has been consciously written in light of the composer's awareness of the possibilities of ways and locations in which the piece might be heard, music in which a sound's location in time is less important than its location in space. In doing so, I also make a case that a Zen (or Kyoto School) approach to perception has significant features in common with a Gibsonian ecological approach, while also adding extra dimensions of potential meaning that Gibson's western scientific standpoint does not address.

Subjects and Objects

The concept of ecological perception as promulgated by Gibson is largely unrelated to the similarly-named concepts of ecomusicology (defined by Aaron S. Allen as "the study of music, culture, and nature in all the complexities of those terms" [qtd. in Boyle and Waterman 2016: 25]), environmental (eco) musicology (musicology from an eco-activist political standpoint), and the ecology of musical performance (an apolitical musicology adapted from scientific methodologies developed by ecologists for field work) (Boyle and Waterman 2016: 36). W. Luke Windsor comments that Gibson's key psychological insight was "the idea that much of perception is 'direct' and unmediated by social or cultural cognition" and that experimental evidence has been found to support the idea of unmediated musical perception (2016: 166). This emphasis on unmediated perception — and its logical corollary, the idea that each individual will perceive the same input differently — is remarkably congruent with the founding figure of Kyoto School philosophy Nishida Kitarō's concept of pure experience.¹ Nishida's introductory illustration of this concept in his 1911 work *An Inquiry into the Good* is with colour and sound:

The moment of seeing a colour or hearing a sound, for example, is prior not only to the thought that the colour or sound is the activity of an external object or that one is sensing it, but also to the judgment of what the colour or sound might be. ... There is not yet a subject or an object, and knowing and its object are completely unified. (1990: 3-4)

A Gibsonian ecological approach to musicology emphasizes sound above scores, and listening above reading, but above all, it always “presents perception as a mutual relationship between organism and environment, so that every description of perception is therefore specific to an individual’s capacities and perspective” (Clarke 2005: 156). This concept of the “mutual relationship” is important; in this account of perception there are no absolutes, every perception being intimately and inextricably connected to the perceiver. The complete unification of subject and object erases the distinction between them, so one cannot exist without the other. This aspect of Gibsonian perception echoes Mahāyāna Buddhist philosophy, specifically the doctrine of dependent origination (*Pratītya-samutpāda*), which denies that any one thing can be said to exist independently — that is, without a perceiver.²

Mahāyāna Buddhists believe that there are “two levels of truth: the conventional and the ultimate” (Abe 1997: 51). Nothing can be proven to exist without being perceived by something; that is, nothing can exist independent of a perceiver, no object can exist without a subject. Dependent origination means that “nothing whatsoever in the universe [is] independent and self-existing” (140). All things, being made up of parts, and being without independent existences, are empty. The ground of reality, then, is nothingness: there is perfect emptiness at the root of everything; the ultimate truth is nothingness (a nothingness conceived of — to the extent that it is conceivable at all — as ripe with potential, more blank canvas than nihilistic *lack*). Being in a world which has two levels of truth — the everyday, conventional truth and the ultimate reality of absolute emptiness — is what Ueda Shizuteru (a third-generation Kyoto School philosopher) calls “a two-fold being-in-the-world” (2011: 769).³ Only religion and art have the potential to bridge the gap between these two worlds and reveal the contingent transience of all we perceive to be permanent and existing in conventional reality. One work which, in my opinion, exhibits this potential is American composer and guitarist Michael Pisaro’s *fields have ears*.

fields have ears

Fields have ears is a series of ten pieces composed between 2008 and 2016, written for vastly different ensembles from 1 to 80 musicians (including electronics or field recordings in five of the pieces), and lasting anywhere from 10 minutes to over an hour (Fig. 1 shows the basic details of the ten pieces). The title is a reworking of a German saying, “Das Feld hat Augen, der Wald hat Ohren” (fields have eyes, forests have ears) (Pisaro 2012). Exploring a single conceptual or musical idea through a series of works is much less common in music than in art, but is a common way of working within the Wandelweiser collective of which Pisaro is a prominent member.⁴ While there are multiple ways in which the series can be understood, Pisaro writes that *fields have ears* grew organically as “an open-ended investigation which, after the first work, seem[ed] to need to continue” (qtd. in Saunders 2011: 499). James Saunders notes that this open-ended way of working means that

	year	instrumentation	length	field recordings	sine tones	noise	location/movement
(1)	2008	Piano and four-channel playback	20'00"	fixed by the composer	fixed by the composer	fixed by the composer	electronics
(2)	2008/ 2009	Piano and four performers	free (approx. 20'-32')	no	performed live	performed live	passing sounds between performers
(3)	2009	Piano, contrabass, objects	30'00"	11 short ones, made by the performer	no	performed live	conceptual movement from field to indoors
(3b)	2010	Piano, violin, contrabass, objects	30'00"	no	no	performed live	conceptual movement from field to indoors
(4)	2009	Four or more musicians	27'40"	no	no	not necessarily	conceptual—"A slow change in the environment."
(5) (vapor)	2009/ 2010	Flute, bass clarinet, percussion, cello, piano	33'30"	no	no	performed live	performers widely spaced
(6)	2010/ 2011	Guitar and audio playback	53'40"	fixed by the composer	fixed by the composer	fixed by the composer	only within the pre-recorded material
(7)	2010	Five musicians	25'00"	fixed by the composer (only in one part of the piece)	performed live	performed live	performers move in performance
(8) (after Arshile Gorky)	2010	Up to 80 musicians	10'00"	no	no	performed live	passing sounds between performers
(9) (Emergence)	2012	49 musicians	65'20"	no	no	not necessarily	passing sounds between performers
(10) (constellation, monarch, canyon)	2016	Piano and 63 musicians (orchestra)	25'30"	no	no	performed live	passing sounds between performers

Fig. 1. A breakdown of the key features of all ten pieces in the *fields have ears* series.

each new piece can be based on elements of any of the previous works in the series, making the web of relationships between different works quite complex (500). Two of the most important concepts that emerge from this web are explorations of (1) the idea that the performers are listeners, and (2) that the location of a sound in space is as important as its location in time.

These ideas lead to what might be called an ecological approach to composition — that is, an approach to compositional praxis which draws on Gibsonian ecological perception in its awareness of how listeners might perceive the performed work. Pisaro has written about the importance of each individual audience member's perceptions in connection with *fields have ears*:

I find the implication that there are “ears” everywhere, at every point in a world, a fascinating concept, even if it is rather hard to imagine. It implies that position might be more important than time in hearing; and that the sounding configuration of a world can be understood (differently) from an infinite number of points. It says that what is audible to any one person is unique, but at the same time contiguous (and therefore directly related) to what is audible to others. So the series is about creating (or rather, imagining) configurations of sounds in a “field.” (2012)

This passage shows both his awareness of — and sensitivity to — an ecological approach in conceptualizing how the audience perceives his work, as well as the importance of the location of sound sources in relation to perceivers in articulating those individual, connected experiences. His way of composing in *fields have ears* is predicated on several ideas: that both he and the performers are listeners as much as the audience is, that the same sound from different locations will afford⁵ different (but related) responses, and that every perceiver will hear and understand the music differently. This awareness is built into the conception and structure of each separate piece in the series. What *fields have ears* amounts to is a series of musical experiments, exploring how variables of space and location affect perceivers.

This experimental hypothesis is not explicit in any of the scores or program notes, but the importance of location is in evidence in the texts which accompany the series. More importantly, from an ecological perception perspective (in which the interpretation should rely as little as possible on outside concepts), it is evident in the structure of the music itself.

Motion

Location asserts itself as a structural principal in *fields have ears* through motion. The movements of sounds around the performance space in different ways — ways which vary from piece to piece within the series — are likely to draw a listener's attention to that element. In *fields have ears* (2) for a pianist and four performers, Performers 1 and 2 each play a single “full, but quiet, and relatively static noise of their own choosing. ... The two sounds should be as close (in color) to each other as possible” (Pisaro 2009a: 1). They sit across from one another, with the piano between them, alternating (never overlapping) their sounds according to a time schedule set out in the score. The two sounds may not initially be perceived as a pair, but their similar timbres and alternating pattern will quickly differentiate them from the piano sounds and the sine tones being played by Performers 3 and 4. This pair of sounds affords being perceived as a single moving sound as listeners compare the two similar sounds, one coming from their left, and the other on their right (and/or one close and one far; and/or one in front and one behind). The relative locations of each audience member and each performer are not knowable in advance, of course, which is why the virtual motion (the listeners' perception that a particular sound or sound source is moving in space) is crucial in highlighting the parameter of location. Eric F. Clarke defines the key musical properties which signify the virtual motion of sounds in a musical context as “rhythm (rate and manner of motion), dynamic (approach, withdrawal), pitch (direction), and articulation (weight, force)” (2005: 184). By keeping all four of these properties static, Pisaro emphasizes the actual physical location whence the sound originates; by not sounding simultaneously, and by sounding in separate locations, the noise itself can potentially begin to be perceived as moving back and forth across the piano.

Fields have ears (7) enacts actual movement in a more theatrical way. In this piece, a 5x5 grid is laid out in the performance space. Over the course of the piece, the five musicians move to different squares in the grid at set times. There are four different positions; the four corner squares each have a speaker and the middle square of the twenty-five is never used. The emptiness of the central location has a very Buddhist feel. Unlike traditional Western art in which lesser, background things surround a substantial central figure (consider, for example, God and his Host, the solar system, an atomic nucleus), the central position in Eastern art and philosophy — and, as Barthes pointed out, in Tokyo's city planning (1982: 30) — is often empty. The musicians change instruments each time they move, so there is not a sense that the performed sounds are moving between sections, only that the locations from which sounds are coming are

changing. Similarly, the final three pieces take advantage of much larger groups (80, 49, and 63 musicians respectively) to move sounds around the performance grid without the performers themselves having to move. This focuses attention even more on the properties of very similar sounds occurring in different locations, giving a sense of depth and texture to the field.

The subtlest signification of motion in the series is *fields have ears* (4) for four or more musicians, recorded on the Another Timbre disc *fields have ears* (Pisaro 2012). In this work, the musicians collectively agree to enact “a slow change in the environment,” with possible examples given in the score including “it starts to rain ... or to clear ...” and “the last day of summer with the first feeling of fall in the air” (Pisaro 2009b: 1). The musicians each choose two sounds, one that suggests the first state and one that suggests the second, with the proviso that the sounds should be largely similar, and always extremely quiet. There are 17 timed sound events, lasting from 4 to 158 seconds each, with timed silences between the sounds. Each musician plays the first sound only, until he/she changes to the second sound (he/she cannot then return to the first sound), and each can individually decide when to make the change. This results in an incredibly dense and rich virtual sonic world where, as the piece progresses and some players change and some do not, the gradations of gradual change become perceivable. It is rather like putting a single change under a microscope to examine its properties on the most minute level available, including the sense of sublime wonder that often accompanies a glimpse into the minutely small or the enormously vast.

Uncanny Virtual Worlds

Eric F. Clarke maintains that “motion in music is neither real nor metaphysical, but fictional” (2005: 89), however I would argue that metaphysics can and does enter into our perception of music and motion. There is a sense throughout Pisaro’s work in general that he is interested in creating conditions for something akin to a spiritual experience through sound — or in more secular language, a sense of wonder or amazement at the unexpected.

Sounds heard on recordings (which include electronics or field recordings presented in a live situation) and, to a lesser extent, sounds produced live in front of audiences suggest a virtual world from which they emanate (Clarke 2005: 70). Our minds perceive these sonic signals and we mentally construct an image of the world which might have produced them. This idea of a virtual world builds on Stephen McAdams’ work on virtual sources, i.e.: “fictional” sound sources suggested by music or recordings (Bregman 1990: 460). The more detailed

the recording, and the more sounds that are immediately identifiable with those in our actual environment, the more detailed this fictional virtual world will be. Experiments suggest that spatialization and the perceived movement of sound are necessary for listeners to believe in and identify with a virtual musical space (Västfjäll 2003: 86). If the sounds that suggest the virtual world are reasonably close to how the actual, conventional world sounds — if the perceived or suggested movement and environment are familiar enough — the listener can hear it as emanating from a believable fictional world. If, however, the sounds suggest movement which does not correspond to how the listener expects sounds in the actual world to behave, this affords being perceived as metaphysical movement, a glimpse into another world.

Speaking about a pair of earlier pieces, *ricefall* (2004 and 2007), in which performers create a rain-like soundscape by dropping grains of rice onto various objects, Pisaro says: “Sometimes people actually hallucinate. There’s something about it that I think is a bit like a dreamlike state because you’re being conditioned all the time by these sounds and the activity that you’re doing” (Banff 2017). The activity of listening to this music, whose virtual source affords being perceived as rainfall, while watching performers dropping rice on objects affords a hallucinatory response. In more spiritual language, it encourages a moment of understanding that the world as perceived is not the true world, that our perceptions (including our perception of ourselves) are convenient fictions we construct in order to exist in the so-called actual world. Pisaro also acknowledges the similarity of performing a work like *ricefall* to the act of meditation, which he attributes to the quality of focus both activities require and the fact that “you kind of retreat a bit into yourself even when you’re performing” (Banff 2017).

In terms of Buddhist philosophy, both the performers’ meditative experience and the metaphysical movement I perceive in the shift from realistic to virtual world are glimpses into the true emptiness of existence. They are mental shifts from actual to hollow (in Ueda’s terminology), or from a perception of conventional to ultimate truth (in Abe’s). It’s important to note that the potential transcendental effect is afforded by perceiving *ricefall* and *fields have ears* as a listener, performer, or even composer. It is also worth restating that the music *affords* this interpretation; it is one possible response among many. Some sounds are better suited to transcendental responses, however, and my argument is that Pisaro is clearly aware of these kinds of responses and seems to deliberately compose in a way that affords them.

Ricefall precedes the *fields have ears* series, and has clearly influenced the way Pisaro creates soundscapes that afford these kinds of spiritual experiences when listened to in a focussed manner. The most obvious relationship is with

fields have ears (8), in which up to 80 performers perform in an 8x10 grid, 57 of them playing a radio with white noise (either low or high pitched) and 23 dropping beans on one of four types of objects (ceramic, metal, plastic, or stone). I have not had the chance to personally hear this piece live, and it has not been recorded on CD nor is any recording available online, so I cannot accurately comment on how it sounds. The approach is obviously similar to *ricefall*, but with the addition of white noise (which affords being heard as both wind and waves, depending on its quality and the individual listener's experience), and likely has a similar effect. What happens in each part of the grid is — predictably, given the focus of the series on location — more controlled in *fields have ears* (8) than in *ricefall*, in which parts (indicating intensity) are distributed randomly. *Fields have ears* (8) is a refinement of *ricefall*'s conceptual experiment, which introduces an important new variable (space) into *ricefall*'s virtual field.

Actual, Virtual; Non-fictional, Fictional

Four pieces of the *fields have ears* series use field recordings in some capacity. Pizaro's treatment of field recordings bring together all the elements I have discussed so far: the Gibsonian ecological perception-influenced approach to composition; location and perceived movement; and uncanny virtual worlds. From an ecological perception perspective, what is interesting in analyzing a work that incorporates field recordings (with or without instruments) is that what you are hearing is an already listened-to artefact of sounds first made in the past. A composer has taken found sounds, recorded them, listened to them, and interpreted them. Composing, especially with found environmental sounds, becomes an activity which can be interpreted as just another way of recording an experience of focused listening, analogous to a written analysis in language. The method of interpretation takes as many forms as there are composers, but at the very least there is an element of interpretation in choosing a starting and ending point (a frame). In the case of most composers, unless the recordings they are working with were made by another (though that just adds a second interpreter) there is likely also a careful consideration of which microphones to use and how and where to set up them up. Not all, but a great number of composers also interpret the material by using some of the many tools and tricks of the electronic music studio to edit and manipulate the recorded track. This could be done to clarify certain sounds which the composer wishes to emphasize or bring to the listener's attention — possibly the sounds that caught the composer's attention when they were in the field, which their

ear focused on to the exclusion of other sounds that end up masking the desired ones in the recording (Westerkamp 1996) — or to deliberately obscure or make the soundscape more abstract (Pisaro 2010).

The way I listen to and interpret field recordings is quite different from music performed on instruments especially made and played with the intention of creating musical sounds, regardless of the culture or tradition they come from. Field recordings are, by definition, recordings of the actual world; they are a record of sounds that actually existed, were captured, and are presented to an audience in a different time and place. If the virtual space created by music is a fictional one, the virtual space implied by field recordings is non-fictional, or at least readily affords being interpreted as such. That seems logical when sounds that are familiar from everyday life are heard on a recording, especially sounds that are rich in believable background detail. In other words, not just the song of a specific bird in isolation, but that song accompanied by the sound of wind, other animal or insect noises, or human sounds as you would expect to hear if you were out in the sort of place where this birdsong is normally heard. The ease with which the sounds on a field recording can be mapped onto our expectations about the actual world — whether we have personal experience of hearing these kinds of sounds in reality or not — lends itself to this illusion. It also lends itself to manipulation which can be used to mislead, as with photoshopped advertisements or selective editing of documentary film footage. But manipulation can also be used to create a frisson of the unexpected or uncanny, which is how I hear Pisaro's interventions on this ostensibly non-fictional material in the *fields have ears* series.⁶

Field recordings are the dominant sonic material in *fields have ears* (1), cover at least two-thirds of the sonically denser piece *fields have ears* (3), and are heard less frequently in pieces (6) and (7). The treatment of the recordings differs in each case, but in no cases are the field recordings presented unaccompanied by other sonic material for any significant length of time. Along with the field recording, there is always simultaneously or in close temporal proximity a non-field recording sound. These sounds might be noise produced live by instruments, pitch produced by instruments, white or pink noise produced electronically, or sine tones. All of these afford vastly different interpretations, and their regular juxtaposition creates interesting disturbances and a feel reminiscent of magical realism. The virtual scene appears realistic on its face, but the deeper you look or listen, the more preternatural it becomes.

In order to further elucidate these ideas, I will end with a reading of *fields have ears* (1) which goes into more depth than I have hitherto gone in discussing the series as a whole. The following description relates my experiences of listening to *fields have ears* (1). As such, it is unique to me and my way of perceiving,

which is both shaped by the ideas outlined above and dynamically shaped in the moment by the material being heard. Other listeners will undoubtedly have different reactions, but I have included this close reading in order to show in practice how attention to Gibsonian perception and Mahāyāna ontology simultaneously enriches my experience of Pissarro's music.

fields have ears (1)

Fields have ears (1) begins with a quiet hiss, some unidentifiable white noise. This could be wind or an ocean, but suggests microphone noise to me. Though I am listening on stereo headphones — to Philip Thomas's 2012 recording on the Another Timbre label — this noise would, in the concert hall, come from speakers. My perception of the sound as mechanical noise lends a rough authenticity to the piece: I know that a field recording is coming — from the subtitle of the piece, which reads “for piano and four-channel playback (field recordings + noise and sine tones)” — and the noise gives me the reassuring impression that the sound I'm hearing hasn't been “cleaned up” or manipulated too much. I feel I can trust the virtual world I'm imagining behind the speakers as a true documentation of the actual one.⁷ The noise soon begins to vary in intensity, however, which leads me to wonder if it is actually wind. Seven seconds into the piece, bird calls ring from both stereo tracks (they are clear and distinct, but I lack the knowledge to place them by name; however, they sound to my ears like small songbirds mixed with the croaking sound of a larger bird such as a crow). The initial feeling of trust doesn't fade. I believe in this virtual world now; it affords being interpreted as a non-fictional documentation of a real place.

The piano enters at 0:18, with a quiet, moderately low single note, toward the bottom range of a singing male human. The piano's second intervention in the soundscape is at 0:32 on this recording, a softer dyad repeating the previous note and adding a note a minor third above it. The birds and white noise obviously continue around these piano notes, which, though quiet, are undeniably not a part of the virtual field I've constructed in my head. They are an unexpected sound; if I didn't know any more about the piece, listening to it on a CD where everything comes out of headphones or speakers might tempt me to construct a virtual world which includes a piano in a meadow. However, in a concert hall (or knowing how the piece would be presented in one), I can still hear the field recording as a “natural” document and the live piano as a separate, complementary element, a human comment on the “natural.”⁸

That is how I hear the first 40 seconds or so unfold. There is not space to detail all the small changes in texture of the full 20 minutes, but gradually over the next four minutes, a low-pitched, very quiet sine tone (which rises in pitch every minute) becomes apparent, fading in and out of my consciousness. There are more varieties of bird calls — some insistently repetitive, and therefore memorable — and buzzing insect noises, as well as distant noises of what might be traffic or perhaps a helicopter. The field becomes a more complex environment, touched with the human (only a revelation when I allow myself to forget the necessary human presence in making the recording in the first place, and the noise that may or may not be a relic of the recording process), and occasionally inflected by delicate piano sounds which span the full range of the instrument and a variety of intervals. The sine tones sound alien, intrusive, and unnaturally still (sine tones being sounds with the most regular possible soundwaves). This is the virtual world set up, in my hearing at least, by the first five minutes. This virtual world might be all I ever hear, if I continued as a casual listener, not giving attention to the details of the recording: a field, distant human sounds, a rising sine tone fading in and out, and a piano in the auditory foreground. In this reading, the piano and the sine tones seem like musical elements imposed on a documentation of a natural soundscape, the eponymous “field.”

However, a closer listening⁹ reveals the extent to which the initial impression is a manipulation, reflecting the essential hollowness of the apparently solid virtual world. Presaged by 30 seconds of pink noise, there is a momentous but almost undetectable change at the five-minute mark. What happens is extremely subtle, but happens again at 10 and 15 minutes: the field recordings playing on the four speakers repeat from the beginning, but rotate to a different speaker. Different listeners will catch on to what is happening at different points over the four rotations — the four *repetitions* — and some may not consciously figure it out at all. For me, the previously mentioned repetitive bird calls were what first made me realize that I was hearing the same material presented again and again. The reuse of the same fragments of tape rotates the listener in the imaginary/hollow space or field without them moving. It also shifts them back in time, to an alternate, slightly different version of the same past. Without moving, the virtual sonic world we thought we were in is suddenly shifting each listener in four dimensions. The “repetitions” of the five-minute field recordings, however, are not exact; they fade in and out and are otherwise manipulated differently each time. There are, for instance, times when the field sounds — the wildlife, the wind, even the distant helicopter and airplane sounds which are now a part of nature in the modern world — are stripped away, leaving only sine tones, piano, and isolated bird calls (around

7:25 is the first time this happens). This again reveals the hollowness and the artificiality of the virtual “field.”

Pisaro has written that the pianist in this piece is meant to be an ear (Pisaro 2012). The performer, then, is explicitly also a listener, a perceiver of the virtual field of sounds created by the four speakers. The placement of the piano’s notes in time is fixed by the composer, but their volume is relative to the performer’s perception of the field recordings. In other words, aspects of the performance are explicitly informed by a perceptive human presence, with a human ability to respond to and interpret the world around him or her. This is another aspect of Pisaro’s awareness of ecological perception in composition.

By the final part of the piece, I began to hear the sine tones — the only sound source which does not physically move in either space or time and which felt intrusive upon the “natural” virtual world in the first minutes — as the most stable element of the piece. At first seeming somewhat alien in their purity and menacing in their low-register quietude, I came to perceive them as signals of stability in a shifting universe; the waveform of the sine tone is as regular as a waveform can possibly be, and their steady and regular rise over 20 minutes is one of the most easily identifiable and understandable elements of the piece. Thus, a piece which begins with a seemingly non-fictional aural portrait of a virtual world intruded on by human and mechanical presences ends with the human as the unmoving axis around which the virtual world uncannily rotates, while the mechanical sine tones shift from menacing to reassuringly predictable. Expectations I had as the piece started were overturned as it enacted a subtle opening of its seeming non-fictional (“actual”) virtual world into a hollow one.

Location and Space

Fields have ears (1) invites us to imagine a richly textured, highly detailed image of its virtual source, and then gently, slowly shows how this is a hollow fiction. The piano, however sympathetic its tones are to the recording (jibing — or not — with the sine tones, accompanying the bird calls), is not a natural part of the scene; it points to the artificiality from the start. But as the recording progresses, from its first tape hiss, to the four-fold variation and rotation of the virtual space, through the dropping out of most naturalistic sounds in favour of isolated birdcalls over droning sine tones, and finally to the increasing prominence of the very artificial-sounding sine tones (gradually rising out of the background into the foreground), the environment’s virtual source is increasingly made to seem hollow, unreal, or not possibly within what we call the “actual” world. It’s a sophisticated aural paradox, which, like a zen kōan,¹⁰ points at a deeper truth

about the limits of human perceptual capacities by exposing how our minds construct virtual spaces which we believe in as if they are objectively true.

The ten pieces of the *fields have ears* series explore space in different ways, but are linked by a concept at the heart of ecological thinking about aural perception: every listener will perceive the same sound(s) differently, and we all construct our own subtly different virtual spaces from the same sounds. By making each sound's location the principal compositional element of the music, Pisaro has created aural experiences which offer the listener opportunities to question how much wider, deeper, and empty/hollow reality is compared to the convenient fictions our minds create for us to navigate what we call the "actual" world. The shifting virtual worlds of these ten pieces reveal how contingent our perceptual faculties are, and simultaneously how unique to each of us our own perceptions are.

The Gibsonian ecological approach to perception posits an interconnectedness of perceiver and perceived, denying that any two organisms could perceive the same stimulus in precisely the same way. The Mahāyāna Buddhist approach to perception similarly emphasizes the unity of all things, leading to a conclusion that there can be no ultimate truth, no prime mover, and nothing but absolute nothingness. Through an understanding of Gibsonian psychology and aesthetics rooted in millennia of Mahāyāna philosophy and art, listeners at all stages of the creation of an artistic experience such as *fields have ears* can more deeply comprehend the uncanny soundworlds they are perceiving. In this way, they will be able to better explore the "hollow" virtual worlds that are being dynamically created in the perceivers' minds — whether this be from the ceaselessly-shifting standpoint of listener, performer, or composer. 🌿

Notes

1. The Kyoto School is a group of philosophers based at Kyoto University and centred around Nishida and his students. Very roughly, they aim to bring Buddhist philosophical and metaphysical ideas into a critical dialogue with Western philosophy, especially the continental/German tradition. See Davis (2017) and Maraldo (2011) for more detailed introductions to the School.

2. For a detailed description of this concept and its various interpretations, see Bucknell (1999).

3. For a more detailed description of the Kyoto School conception of dependent origination, see Davis (2017), §3.2.

4. The Wandelweiser collective is a loose group of composers and musicians founded by Antoine Beuger and based in Germany. As a group, they run a score and book publishing house for the 21 member composers, a CD label which records their music, and a

website which promotes their concerts, among other activities (Barrett 2011; <http://www.wandelweiser.de>).

5. “Affordance” is Gibson’s term for the range of possible interpretations or responses conceivable resulting from a given object or source. For instance, in different circumstances and to different individual organisms, a plastic bag might afford being filled with shopping, being folded up and stored, being recycled, or an existential threat (if one was a sea turtle at risk of choking on it) (Gibson 1979: 129).

6. Windsor offers a social, rather than spiritual, model of interpreting acousmatic music which takes as its material recordings of identifiably everyday acoustic events (2000: 21).

7. This impression is afforded by what seems to be a technical error, similar to the illusion of authenticity given by deliberately shaky handheld filming in cinema or video work.

8. This is my interpretation, but the piano in a meadow interpretation is also possible, and quite intriguing.

9. By a “closer listening” I do not mean in any sense a kind of listening open only open to musically-educated listeners or those familiar with Pissarro’s musical world. I simply mean paying close attention and to a certain extent remembering key elements of the musical material (especially characteristic birdsongs) (see also Krueger [2011: 71-2] on what he calls “deep listening”). This kind of listening is in fact encouraged by the nature of the material itself; a quiet whisper draws a listener close, while a shout pushes them away.

10. A kōan is a type of Zen Buddhist paradoxical riddle that is used to help trainee monks or laypeople break away from thinking logically about causes and effects and instead perceive reality directly.

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