

# The Sound-Poetry of the Instability of Reality: The audio reality effect and mimesis

CHARLES FRANCIS UNDERRINER IV

Music Department, University of North Texas, Denton, Texas, USA  
Email: charles.underriner@unt.edu

**This article proposes the audio reality effect as a meaningful translation of Roland Barthes's literary reality effect to the sonic realm. This refinement of transcontextuality and source recognition is applied to electroacoustic music and soundscape composition using the works and writings of Emmerson, Truax, Wishart, Smalley, Fischman, Young, Norman and Field. Lastly, this study mimetically analyses *2 seconds 1 b minor 1 wave* by Michael Pisaro and Taku Sugimoto in order to demonstrate the relevance of mimesis and the audio reality effect for understanding current musical practice.**

## 1. MIMESIS: REPRESENTATION AND MUSIC

'Context-based composition' has been proposed as the broader practice of utilising real-world contexts in composition. If context-based compositional practice is informed by real-world contexts at every level, it is exceedingly important to consider the developments of mimesis in other art forms, particularly including Roland Barthes's 'reality effect' in literature, as artists and scholars in other media have been explicitly examining art's relationship to everyday reality for much longer than is the case in the field of music (Underriner 2016).

Until the advent of high-definition recording, music was largely concerned with non-representational constructions using conventions of pitches and rhythms (Wishart 1996: 130). From antiquity until the twentieth century, the so-called 'lattice structure' of pitches and rhythms dominated musical thought over using the continuum of real-world sounds (Wishart 1996: 130) despite the rich history of art music that explored the imitation of natural sounds (O'Callaghan 2015: 232). In the twentieth century, 'the advent of recorded sound as a compositional medium ... significantly expanded the possibilities of mimetic discourse in music' (O'Callaghan 2015: 232), particularly in the works of Pierre Schaeffer and John Cage in the middle of the century.

As the continuation of an avant-garde musical lineage linking back to Luigi Russolo's *Art of Noises* (Russolo 1916) that reframed the sounds of war as music (Kahn 1999: 62–7), Schaeffer's work recontextualised recorded sounds as 'musical signs' (Smalley 2009: 79) and Cage's work challenged the field of music

to integrate everyday sounds – recorded or not – as viable musical material, causing shockwaves in the scholarship of music that still reverberate today (Gann 2010). Now that environmental sound and field recording are generally considered to be legitimate musical material, composers must further examine the concept of everyday 'reality' that is evoked by using field recordings or other sounds of the everyday in artistic works.

According to Risset, Norman, Smalley, Field, Fischman and Truax (Risset 1996; Norman 1996; Field 2000; Fischman 2008; Smalley 2009; Truax 2012), the use of environmental sounds in musical practice has broad implications for our experience of reality and the specifics of computer music compositional techniques. Music composition as a field is thus obligated to further integrate the findings of literary and visual criticism, the analysis of media that have stronger historical ties to the representation of the everyday, into its perspective on reality and representation. While scholar-composers such as Denis Smalley have defined and highlighted the relevance of transcontextuality – when a listener associates a given sound with both its original and performative context – the field of electroacoustic music has not integrated the findings of mimesis from the history of other art forms into musical theory and practice. This study seeks to fill this gap in the literature by synthesising the concept of mimesis with recent research concerning the reality effect (Barthes 1982) and simulacra (Deleuze 1990: 262; Baudrillard 1994: 2) in order to further refine the theoretical understanding of the representation of reality in 'context-based' music, particularly by proposing the audio reality effect as a significant application of mimesis to current musical practice.

## 2. MIMESIS: THE REPRESENTATION OF REALITY IN THE ARTS

Etymologically, mimesis is derived from the Greek root *mimos*, meaning a person who imitates – like the English word 'mime' – and 'a genre of performance based on the imitation of stereotypical character traits' (Potolsky 2006: 16). The idea of mimesis has been the conceptual frame for debates concerning the

representation of reality in art throughout history, including in the writings of the philosophers Plato, Aristotle, Augustine, Aquinas and others (Potolsky 2006). Broadly understood, mimesis refers to the relationship of art to reality. The central debate about mimesis has been whether mimesis merely mirrors reality or whether imitations of reality can exist according to their own logic and exist independently from the original. Broadly speaking, artistic techniques can be said to operate in the realist mode – that which represents or resembles a subject outside itself (Goldman and Gilmore n.d.) – or in the abstract mode – that which rejects representation and has no starting or ending point in nature (Mosynska n.d.).

Throughout the history of the arts there have been particular aesthetic and geographical movements that emphasise the mimetic potential of various art forms such as the ‘realist’ movement in European visual art in the mid- to late nineteenth century (Rubin n.d.) and ‘realism’ in French literature in the mid-nineteenth century (Morris 2003: 52). Significantly, many of these realist works operate using the ‘reality effect’.

### 3. THE REALITY EFFECT AND SIMULACRA

According to Barthes, the depiction of the world in literary realism is completely contingent on clichés and conventions (Potolsky 2006: 9). In his essay ‘The Reality Effect’ (Barthes 1982), Barthes argues that realism is not actually tied to reality at all, but is a mere social construction based on a convention of what constitutes an effective representation of reality. Despite the fact that realism appears to operate through accurate representations of everyday life – commonly called ‘verisimilitude’ or ‘life-likeness’ – this is actually a calculated manipulation of cultural codes by the author.

According to Barthes, a fragmentary, concrete detail in the midst of a realistic description of a scene – such as Flaubert’s barometer in *Un Coeur Simple* – will refer directly to the category of the real, thus creating an overall effect of reality for the reader (Barthes 1982: 16). The ‘reality effect’, one of the major artistic techniques of mimesis, is the use of concrete (and seemingly meaningless) details to lend literary description the weight of the experience of reality.<sup>1</sup>

The reality effect works through metonymy. That is, a seemingly meaningless detail will not denote reality itself, but will signify reality by evoking the semiotic category of the real. Therefore, a given phrase in realist literature will trigger the reader’s experience of reality through metonymy. For example, if in a novel it says that ‘the man took a long shower’, the reader associates the phrase ‘a long shower’ with the actual tactile

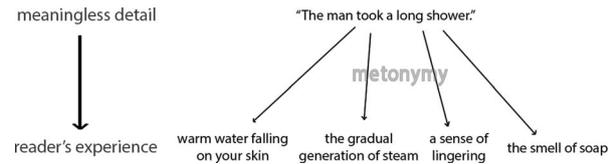


Figure 1. The reality effect in literature.

experience of taking a long shower – the warmth and pressure of the water on the skin, the steam that generates in the bathroom, the smell of soap, the temporal sense of lingering (Figure 1).

The phrase ‘a long shower’ contains none of these experiential details, yet just as the metonym of ‘the crown’ can stand for the monarchy, ‘the long shower’ refers to one’s real experiences of a long shower. Therefore, if the reality effect is in operation, a reader will fill in the phrase ‘a long shower’ with their own reality of taking showers. Like Plato, Barthes contends that this realism is twice removed from an object’s origin by simulating the essence of an object. A simple analogue to this in audio would be the addition of environmental ambience to a recorded sample: the audibility of the mechanism of recording would likely cause the listener to hear the sound as ‘real’ regardless of its actual origin.

Another significant development in the debate concerning reality and mimesis in contemporary life and art is philosopher Jean Baudrillard’s ideas concerning hyperreality and simulacra. Baudrillard argues for hyperreality – the idea that it is no longer possible to distinguish between the real and the imaginary in life in general: ‘illusion is no longer possible because reality is no longer possible’ (Baudrillard 1994: 12). This changes the implications of the reality effect in that not only is the idea of reality unstable, but also we may not be able to distinguish an illusory reality from a fabricated one.

Furthermore, if hyperreality exists in life and art and the relationship between an original and its copy is unstable, then copies begin to take on a life of their own independent of their origins; imitations become simulacra (Baudrillard 1994: 2; Potolsky 2006: 152). This is elevating mimesis to be as equally legitimate as a true original – a clone is just as legitimate an offspring as a natural-born child. Baudrillard, in essence, reverses the logic of the reality effect, of details standing in for reality, and applies this logic to life itself: ‘It is a question of substituting the signs of the real for the real.’ Philosopher Gilles Deleuze affirms Baudrillard’s idea of the simulacrum by arguing simulacra are real objects in themselves: ‘The simulacrum is not a degraded copy ... there is no longer any privileged point of view ... no possible hierarchy ... [the simulacrum] denies the original and the copy, the model and the reproduction’ (Deleuze 1990: 262).<sup>2</sup>

<sup>1</sup>Barthes denotes these details as ‘meaningless’ because they are irrelevant ‘from the point of view of structure’ (Barthes 1982: 11).

<sup>2</sup>For an additional historical perspective on the copy, see Hillel Schwartz’s *The Culture of the Copy* (Schwartz 1996).

In audio mimesis, this means that synthesised versions of real-world sounds are just as legitimate as the field recordings and environmental sounds in representing reality – there is now overlap, and even unity, between the synthetic, the concrete and the real.

#### 4. THE AUDIO REALITY EFFECT

Because of the reality effect, ‘the real’ in all artistic media can be understood as the fragmentary, the unexplained detail, and the transient that refers to the category of the real, the everyday experience of the viewer or listener. In music, the reality effect may also be understood as a specific kind of transcontextuality – when the listener can hear both the sound itself and something of its original context (Smalley 1997: 99). The audio reality effect is when a listener, after identifying the source of a sound used in a musical context, infers and superimposes their own memories and experiences into their experiences of the piece.

An audio example of transcontextuality would be listening to the sounds of a shower – the squeaking of turning knobs, the running of water out of the showerhead, the sounds of stepping into the shower – and hearing both the sonic qualities of the sounds themselves as well as their original context (i.e. being in the shower) (Figure 2; Sound example 1) (Tokernholdt 2014). However, the reality effect in audio goes one step further than Smalley’s transcontextuality in that it also denotes that the listener may, after hearing and recognising the context of the sounds, infer and superimpose their own tactile experiences onto their listening.

Through the audio reality effect, the listener may experience the memory of warm water on their skin and the feeling of stepping into a shower even though there is no changing spatial or temperature information being transmitted through the audio. After the listener recognises the source context of a sound, the sounds trigger the tactile experiences and memories of the listener. The listener may have memories of smelling soap triggered after hearing the sounds of a plastic soap bottle, and yet there is no sensory information other than sound transmitted to the listener. The reality effect in time-based media works differently from that in literature – acousmatic music (and film) may use a great variety of techniques and possible time-structures in order to create the experience of a ‘long shower’ for a listener.

The audio reality effect has implications for both acoustic and electroacoustic music. In particular, the orders of gestural surrogacy, the continuum of source recognition, the form of aural-mimetic compositional discourse, and the resulting real–unreal mimetic continuum all serve to clarify a listener’s experience of the audio reality effect. The audio reality effect is one of the most powerful applications of mimesis to musical practice – the evocation of the audience’s experience through the revealing of a sound’s context.

However, text is much more efficient in referring to the category of the real because words are always signs whereas sounds have the capacity to operate either as signifier or signified. That is, the word ‘shower’ is a combination of letters that refers to a set of possible nouns and verbs, whereas the sound of water dropping does not necessarily denote a given action or entity. ‘The man took a long shower’ can communicate a myriad of experiences including temporal, sensory, psychological and philosophical depending on the reader’s background and memories relating to the *signs* of the sentence. A recording of a shower can only trigger the experiences of a listener as long as they associate a *given set of sounds* with a subjective experience. The audio reality effect is more contingent upon the listener’s experience of hearing the sounds around them because they must interpret the sounds as coming from a given source context (transcontextuality) before those sounds can trigger a set of subjective experiences (see the discussion of Katharine Norman’s work in section 5 below).

Critical theorist Christopher Prendergast provides a recent critique of Barthes’s reality effect in the ongoing scholarly debate on mimesis in his book *The Order of Mimesis* (Prendergast 1986). Prendergast’s main critique of Barthes’s reality effect proposition is that it fails to acknowledge recent scholarship concerning the lack of transparency of language (Prendergast 1986: 61), the problem that representation itself is a self-limiting trap mechanism within a framework of resemblance (16), and the issue of an unidentified ‘Transcendental Subject’ that must be present for the social contracts of mimesis to function (31). The most important refinement that Prendergast makes to the reality effect is that it operates under an existential presupposition that reference can still function in the context of fiction, which operates in the realist mode, yet does not necessarily link to any concrete time and place in reality (62). While Prendergast sees this as problematic in terms of literature, this distinction is helpful for music.

Prendergast’s refinement of the reality effect is particularly relevant to electroacoustic music. Since recorded sounds do not necessarily relate to anyone’s everyday experience except for the person that recorded them, the reality effect of a given concrete sound does not necessarily link to a listener’s experiences, but may still operate to create a sense of alternate reality. For example, I have never listened to the sound of beetles inside of a tree, but when I listen to David Dunn’s *The Sound of Light in Trees* (Dunn 2006), I have to deal with the sonic reality of a space and context that I have never encountered (Sound example 2, 8:14–9:14). The fact that the reality effect still operates despite an unknown reference is part of the reason acousmatic music’s hidden sound sources are so effective in manipulating the listener’s sense of space

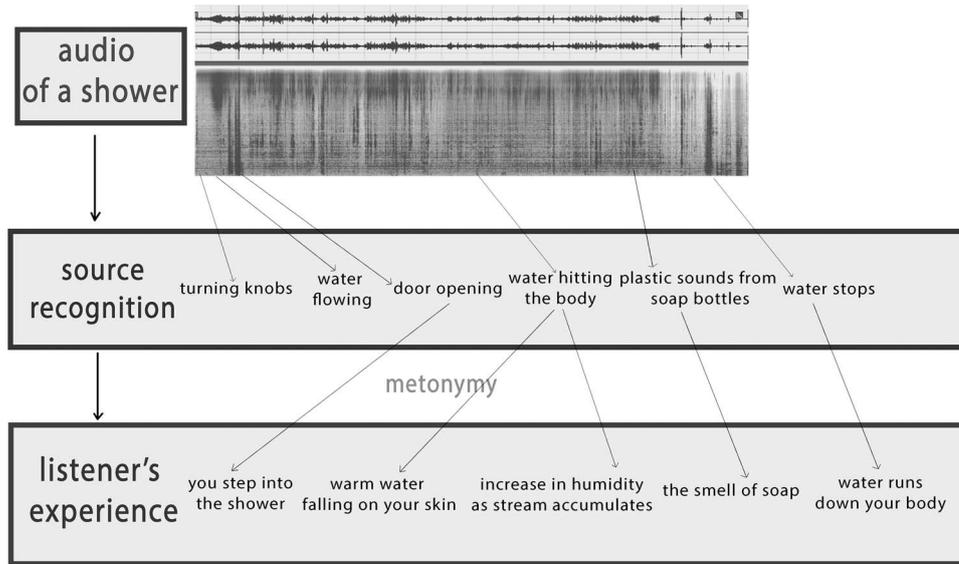


Figure 2. The audio reality effect.

and source materials. In its use of the reality effect, music operates as the sound-poetry of the instability of reality. Music constructs a poetic network of possible interpretations for the listener using the contextual volatility of recorded sound – the fruit of using the ‘representation of reality’ as a ‘composition parameter’ (Field 2000: 37).<sup>3</sup>

It is more compelling to hear the sound of a river flowing if a listener not only perceives the river as a combination of abstracted water sounds, but also connects this sound to their experiences and memories concerning rivers. This connection to a listener’s subjective experience is one of the most powerful tools of acousmatic music, soundscape composition and site-specific musical performances.

For example, in Barry Truax’s *Pendlerdrom* (Truax 2001), the composer blends field recordings of commuting from the Central Train Station in Copenhagen, Denmark, with processed and synthesised material in order to create a ‘daydream in which the sounds that were only half heard in the station return to reveal their musical qualities’.<sup>4</sup> Using real-time granular synthesis and waveguide resonators, Truax processes and filters the field recordings in order to create a sound world that is a hybrid of the raw field recording with more pitched and synthetic materials. As an example of the audio reality effect, the source material of a train station is quite easily identified by most listeners, so it is possible for the listener to

connect this field recording with their own experiences of trains and train stations.

Of course, if a listener has never been on a train or used a public rapid transit system, then these sounds will not evoke any past memory, but will rather seem quite alien. In contrast, if the listener is someone who regularly commutes using the Central Train Station in Copenhagen, then the sounds of the field recording will be strikingly recognisable. In this way, the reality effect is dependent on the subjective experiences of the audience in order to have effective source recognition and the evocation of the real.

In *Pendlerdrom*, Truax alternates ‘layered versions of the original field recording with processed versions that represent the “daydream” sequences’ (Sound example 3, 2:00–4:30). This alternation has the capacity to link the reality effect (from the field recording) with more traditionally pitch-based sonic content – thereby triggering multiple kinds of listening and experience in the listener.

## 5. THE AUDIO REALITY EFFECT AND THE CURRENT STATE OF SCHOLARSHIP

The audio reality effect fits into the current scholarly understanding of mimesis in music as an extension of a listener’s experience of transcontextuality. It also has the capacity to operate in a variety of musical practices and create a diverse set of mimetic results for the listener. In order to use the effect as an analytical tool, it is important to understand how it fits into the current understanding of mimesis in music.

Truax situates soundscape composition within a continuum of practices relating to the evocation of reality: ‘Sonification ↔ Phonography ↔ Virtual Soundscapes’ (Truax 2012: 194). Truax’s continuum

<sup>3</sup>I use ‘sound-poetry’ as a way to highlight the artistic possibilities of the audio reality effect regarding source-recognition. I am not (yet) drawing from the discipline of sound poetry to make any analogous point about the reality effect.

<sup>4</sup>From the composer’s website: ‘Pendlerdrom’, [www.sfu.ca/~truax/pendler.html](http://www.sfu.ca/~truax/pendler.html) (accessed 13 November 2015).

<b>Truax</b>	sonification		phonography	virtual soundscapes
<b>Wishart</b>	real-objects/ real-space	unreal-objects/ real space	real-objects/ unreal-space	unreal-objects/ unreal-space
<b>Fischman</b>	real		surreal	un-real
<b>Field</b>	real	hyperreal	virtual	non-real



Figure 3. The real-unreal continuum.

ranges from data sonification at one end, or ‘art in service of science’ (194), to recognisable soundscapes, then to abstracted soundscapes, and to imaginary or virtual soundscapes at the other end. Truax argues that any manipulation of field recordings beyond ‘transparent editing or mixing’ causes a given work to move from that of a documentary to that of an ‘abstracted’ representation of the real (195).

Phonography, the most mimetically ‘real’ possibility of electroacoustic music, is defined by John Leveck Drever as ‘the notion of “sonic photography” ... hand in hand with the action of writing or inscribing with sound’ (Drever 2001: 74). That is, phonography is time-based sonic photography that inscribes sounds into a recording. Some artists, such as Francisco Lopez and John L. Drever, explore the ontological and perceptual implications of phonography in their compositional practice in a very focused way. John Young and Trevor Wishart agree that the recognition of source or context increases the sense of realism, which I have identified as the audio reality effect (Young 1996: 78).

Truax and Young agree that an ‘abstract’ sound is one ‘for which we can surmise no source-cause context or background’ (Young 1996: 79), or a sound that evokes an imaginary or virtual world that is ‘logically impossible, and possibly interpretable as mythic’ (Truax 2012: 195). These distinctions in how sonic content represents reality are helpful in understanding mimesis in current electroacoustic music practice, particularly in regard to how the audio reality effect works in different qualities of mimesis.

Multiple writers have proposed categories for mimesis in electroacoustic music (Figure 3).<sup>5</sup> Wishart specified the ‘real-objects/real-space’, ‘unreal-objects/real space’, ‘real-objects/unreal-space’, and ‘unreal-objects/unreal-space’ varieties of imaginary ‘Sound Landscapes’ (Wishart 1996: 146–7). Truax gave the continuum of ‘Sonification ↔ Phonography ↔ Virtual Soundscapes’ for the representation of reality in recorded media (Truax 2012: 194).

<sup>5</sup>This graph is not intended to say that all these scholar’s ideas concerning mimesis are in harmony, but rather that they generally align along a continuum of real to unreal concerning mimesis.

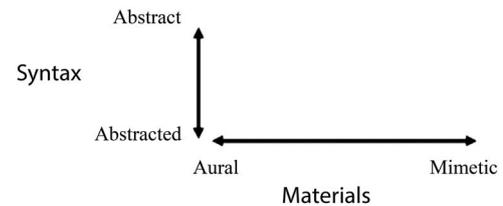


Figure 4. Fischman’s graph of Emmerson’s Language Grid with my axis labels (Fischman 2008: 112).

Furthermore, Simon Emmerson proposes a ‘Language Grid’ using the dichotomies of ‘abstract’ vs ‘abstracted’ syntax and ‘aural’ vs ‘mimetic’ discourse (Emmerson 1986: 17–21) (Figure 4). By syntax, Emmerson is referring to the way that the composer arranges material – meaning that material can be arranged in an ‘abstract’ way such as by using mathematical models or other systems (as in Boulez or Stockhausen) or by using an ‘abstracted’, intuitive approach. By ‘aural’ discourse, Emmerson means basically the same as the classic ‘abstract/absolute’ musical category and by ‘mimetic’ discourse, Emmerson means music that makes use of materials which appear to be derived from everyday sounds (Emmerson 1986: 17–19, 24). In essence, Emmerson creates a grid that encompasses the continuum of compositional approaches from ‘abstract’ to ‘programmatic’ and from ‘intuitive’ to ‘systematic’ using my own terminology.

Multiple scholars have proposed terminology for mimesis in electroacoustic music, most of which coexist without much conflict. One distinction that must be made is Ambrose Field’s use of ‘hyperreal’, which he uses in the colloquial sense to mean ‘more real than real’ rather than an inability to distinguish between an imitation and an original and Field’s use of ‘virtual’, by which he means ‘pure simulation’ (Field 2000: 45–6). Field’s hyperreal and virtual do not directly correlate to Wishart’s unreal-objects/real-space and real-objects/unreal-space because Field is referring to broader mimetic results while Wishart is referring to specific compositional approaches to sound objects and contexts. Rajmil Fischman’s real–surreal–unreal continuum is the most broad and all-encompassing when

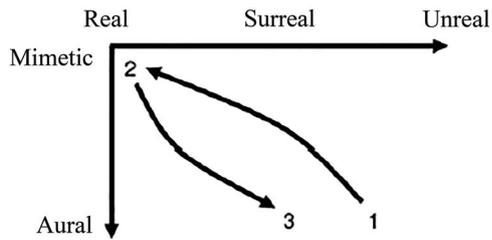


Figure 5. Fischman's analysis graph (Fischman 2008: 116).

considering the myriad possibilities of mimesis in electroacoustic music because it does not reference specific techniques or modes of perception. Fischman's continuum maps efficiently onto the perceptual results of the audio reality effect, as is discussed below.

Fischman has also refined Emmerson's language grid using Smalley's spectromorphology into a proposed analytical framework of 'mimetic space'. Fischman reframes Emmerson's 'abstract' vs 'abstracted' continuum into a 'phonographic-constructed' continuum that concerns how composers utilise their material while being more broad than a systematic vs intuitive approach. Additionally, Fischman synthesises the mimetic–aural continuum (derived from the programmatic-abstract dichotomy) with the real–unreal continuum to create a dual-axis understanding that can identify changes in mimetic mode as well as the composer's working methodology (Figure 5).

This analytical approach is helpful in that it can illuminate changes in mimetic artistic techniques in music that happen in time, which has not been as essential for understanding mimetic arts that are not (necessarily) time-based such as literature and painting. All these distinctions for electroacoustic music fall within Weiss's categories of audio mimesis that involve 'concrete' or recorded sources (Weiss 2008).

Since Wishart and Truax agree that recognising the source context of a sound increases the fidelity of realism in the use of recorded sounds, the way in which source recognition works is significant for understanding mimesis in electroacoustic music. Katharine Norman has written extensively on the listener's involvement with source recognition, that 'real-world' music even 'depends on [the audience's] listening participation and invites us – through our active, imaginative engagement with "ordinary" sounds – to contribute, creatively, to the music' (Norman 1996: 2).

In fact, the audio reality effect, or making a listener associate their own memories and tactile experiences with a recognised sound, is dependent on source recognition. The way that a listener parses a 'real-world' piece can be characterised as 'referential' or 'reflective' depending on if the listener seeks to identify the origin of a sound or instead 'use [their] ears and minds to create, or reinterpret, imagined meanings for the sound' (Norman 1996: 6). Depending on the

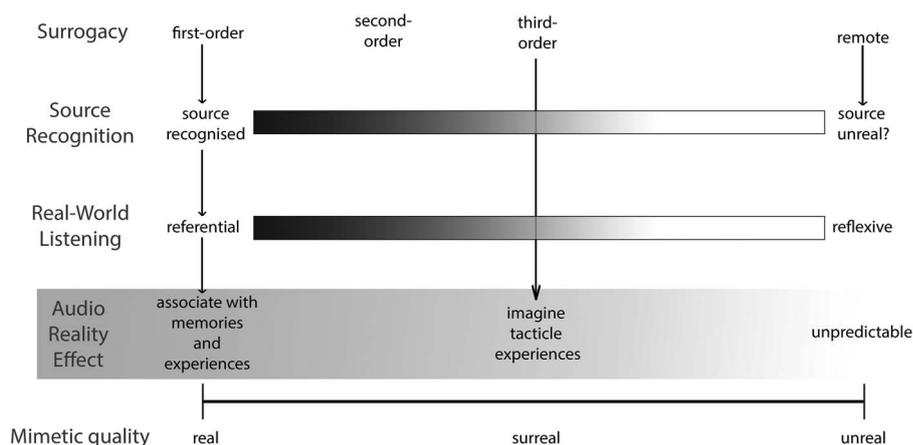
attitude of the listener, and the way they '[shift] between referential remembering and reflective [listening]', the audio reality effect may create a mimetic 'real', 'surreal', or 'unreal' (Norman 1996: 7) (see Figure 6).

Denis Smalley, in his essay on 'Spectromorphology', identifies 'source bonding' and 'gestural surrogacy' as essential concepts for how source recognition works. Smalley defines 'source bonding' as 'the *natural* tendency to relate sounds to supposed sources and causes, and to relate sounds to each other because they appear to have shared or associated origins' and orders of 'gestural surrogacy' as a way to parse the level of ambiguity a sound has to its cause (Smalley 1997: 110–12).

For example, Denis Smalley's *Wind Chimes* (Smalley 1992) begins with the simple sound of a struck wind chime (first-order surrogacy), then proceeds directly to second-order 'instrumental' use of the wind chime to create gestures and spectra that are not possible in the physical realm, but are created through computer music processing. A mixture of first-order and second-order chime sounds gradually transitions to time-stretched sounds that could be from a wind chime, but are not very clearly related (third-order surrogacy). By the end of the piece, the source and origin of the various sounds heard are increasingly masked, increasingly 'abstract', or unreal, inhabiting the space between third-order and remote surrogacy (Sound example 4, 0:00–2:00).

A remote surrogacy may affect the listener's ability to correctly bond a sound to its source, thus impeding the ability of the audio reality effect to evoke their memories and real-world experiences. Gestural surrogacy, despite the fact that the concept applies to sounds made exclusively by gestures, also correlates to the real–unreal continuum. Therefore, the level of surrogacy a sound has affects source recognition, which in turn affects the representation of reality in a work on the real–unreal continuum. Figure 6 represents surrogacy as a general concept applying not only to gestures but also to environmental sounds.

As was stated in section 4, recognising the source of a sound (in first-order surrogacy) creates a mimetic sense of the real that has the capacity to evoke the memories and experiences of the listener through the reality effect. However, as a sound's source becomes more ambiguous, the affects of the audio reality effect in the listener become more contingent. For example, in third-order gestural surrogacy, the listener is 'unsure about the reality of either the source or the cause, or both' (Smalley 1997: 112). If a listener is unsure about the origin of a metal-on-metal scraping sound, but still recognises the materials themselves, they may visually imagine two pieces of metal colliding together without knowing the original context. If a listener doesn't recognise any human agent in the context or creation of a sound (in remote surrogacy), then their reaction to the sound is completely contingent on their subjective



**Figure 6.** Surrogacy, source recognition, real-world listening, the audio reality effect, and the real-unreal continuum of mimetic quality.

experiences, knowledge and familiarity. If a listener has a particular kind of mindset, they may imagine all manner of materials and contexts for the ‘imaginary’ or unreal acousmatic environments they hear. In general, source recognition, mimetic quality and the way the audio reality effect works are linked in electroacoustic music based on the order of surrogacy that a listener understands the sounds presented.

Composers may use sounds whose sources are easily recognised, but whose context is very unclear. Some ‘sounds ... lack the specific contextual details that are required to associate them to particular extramusical events. For example, sounds of passing cars, birdsong and environmental ambience are so common that it is difficult to assign them to particular times or places’ (Field 2000: 42). This enables the listener to freely insert their own experiences with the source-bonded sounds in whatever contexts they remember. Even though sounds such as passing cars and birdsong are quite ‘common’, they have flexibility in their evocation of reality because of their very ubiquity.

The spectrum of perceptual results stemming from the audio reality effect proposed above – ‘associate with memories and experiences’ ↔ ‘imagine tactile experiences’ ↔ ‘unpredictable’ – is the framework for evaluating the effects of mimesis on a listener. If a listener can analyse aspects of mimetic discourse and surrogacy in a work to understand musical discourse – as in (Ferreira 1997: 102–4) – then that analysis can be applied to the perceptual effects of the work on the listener using the proposed spectrum of the audio reality effect.

## 6. TRANSCONTEXTUALITY AND THE AUDIO REALITY EFFECT

Smalley defines ‘transcontextual interpretation’ as ‘sounds [of] cultural activity or nature’ or ‘any recorded sound event where we are simultaneously aware of two (or more) contexts’ (Smalley 2009: 99). Therefore, for

a piece to involve a transcontextual sound, a listener must be able to recognise its source. Smalley affirms that transcontextuality can be a ‘very personal and fragile affair’ because it is ‘dependent on shared norms and meanings’ – this is more broadly known as the social contract of mimesis that realist artistic techniques depend on (Smalley 2009: 99–100). However, difficulty in placing the source of a sound (or identifying its order of surrogacy) is not essential for the integrity of an electroacoustic piece. The listener does not always need to be able to ‘resolve’ the origin of a sound in order to be affected by it.

Ambrose Field further refines Smalley’s concept of transcontextuality using ‘sonic rhetoric’ as a way of linking the musical processes of mimetic material with contextual information (Field 2000: 47). Field argues ‘transcontextuality can be used as a tool to lend old or existing contexts new meanings’ through the post-modernist technique of quotation: the juxtaposition of multiple ‘found objects’ (Field 2000: 50). Field is pointing out the possibilities of transcontextuality both in the micro-scale (with source recognition of a single sound) and in the macro-scale (of reframing old and new contexts for new meanings).

Furthermore, Field identifies ‘transcontextual agents’ as sounds that have ‘clearly identifiable extramusical implications into believable real world acoustic environments’ (51). Transcontextual agents can operate by instantly ‘chang[ing] the space within which they are placed’ or by ‘revealing a new meaning for a context over time’ (51–2). Sounds that use transcontextual agency are instances of the audio reality effect that transform the implications of the sounds around them.

In Figure 7 (Sound example 5), a listener first hears and recognises the sounds of a shower that evokes their tactile experiences of taking a shower. Then, a recording of a waterfall (Martats 2011) is introduced into the sonic environment of the shower. At this point,

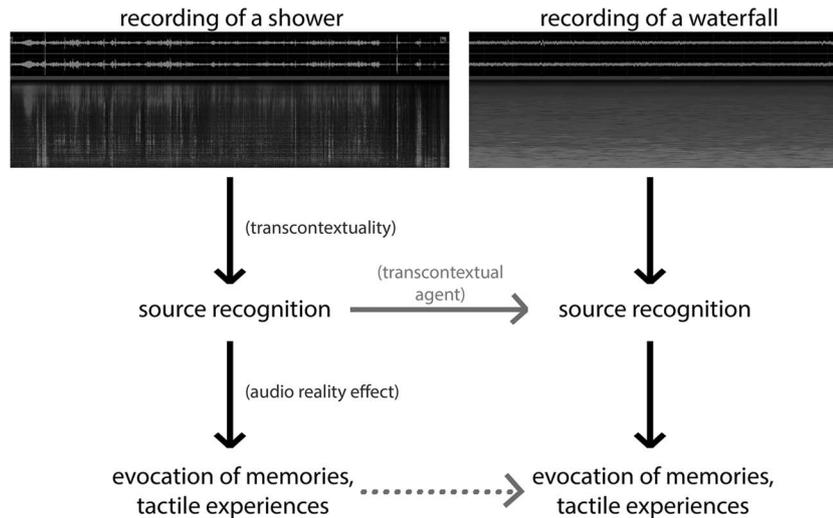


Figure 7. Transcontextual agency.

the transcontextuality of the shower sounds will affect the contextual meaning of the waterfall sounds – the waterfall may sound like a filtered or abstracted variation of the shower sounds, a sound of falling water with a dramatically shifted magnitude, and the sense of space may radically expand from that of an interior set of water sounds to an exterior set.

Furthermore, the experiences that are evoked in the listener by the shower sounds may affect the way the audio reality effect evokes experiences of the waterfall sound – the listener may imagine themselves transported from bathing in a shower to under a waterfall or the listener may imagine what it feels like to be under the immense amount of water in a waterfall as opposed to a gentle shower. Even if the listener doesn't recognise the source of the waterfall sounds, the shower sounds will still affect the way one perceives the waterfall sounds and vice versa.

Following up on Baudrillard's theory of the simulacra, Field also offers up four characteristics of a convincing simulation of reality in audio:

A simulated reality must offer all the gestures and signs of the real.

A good simulation will have the same semiotic consequences as the real.

It is impossible to 'prove' reality.

The longer we perceive an acoustic environment (sound landscape), the more likely it is to be accepted as real. (Field 2000: 44)

These guidelines for creating effective sonic simulacra are the basic criteria for the audio reality effect to occur. Significantly, it will be 'impossible to "prove" reality' for any convincing simulacrum – by definition, the effective imitation takes on a life of its own and is theoretically impossible to distinguish from its

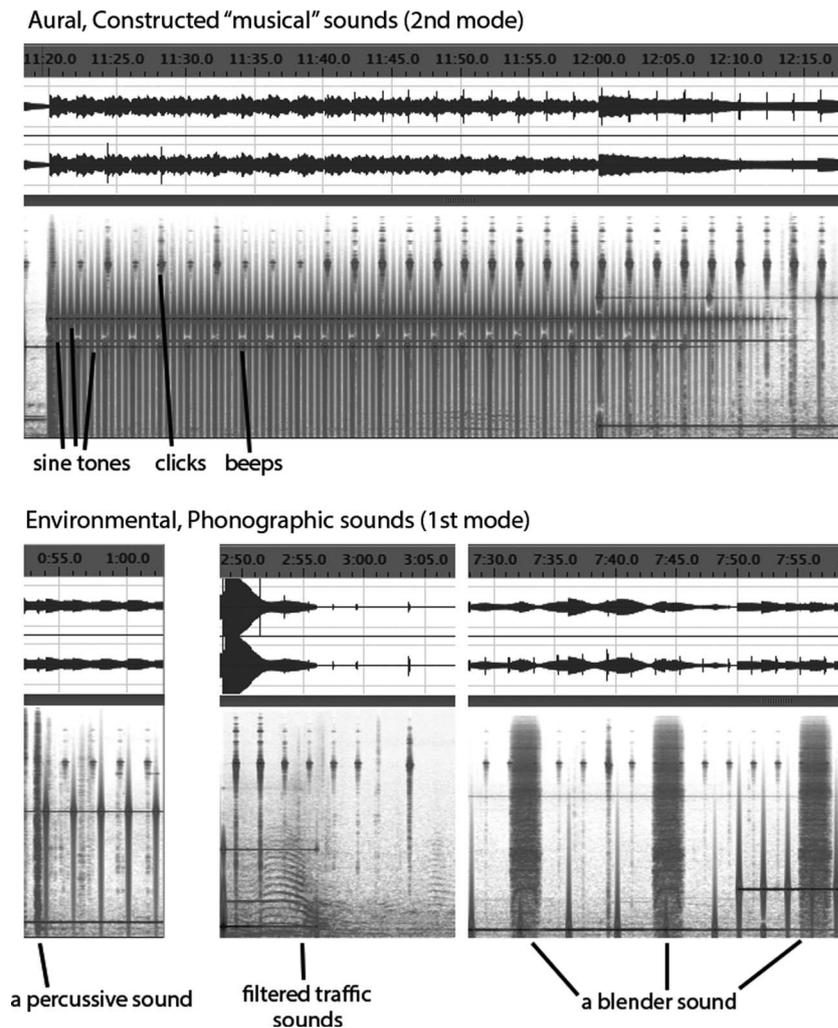
original. One useful observation refers to time: the longer the duration of a recorded environment, the 'more likely it is to be accepted as real'. It is possible that this is because of the way we experience everyday reality – listening carefully to an environment for a prolonged span of time – is the primary way one can identify threats or verify the source of a sound. This perceptual norm may have originated through human evolution (Field 2000: 38).

As a further refinement to the mimetic evocation of the real in electroacoustic music, Eldritch Priest speaks about the use of environmental sounds (either recorded or as ambient sound in a performance space) as being potential agents to 'reinvigorate [one's] perception [of] the minor intensities of everyday life' (Priest 2013: 101). The use of field recordings emphasises sonic material that 'the tradition of Western concert music consigns to a non-conscious register of perception', therefore potentially stimulating the listener to focus their attention on everyday sounds they usually ignore through a Cagean 'model of attention' (Priest 2013: 22).

Smalley and Field have provided a more precise understanding of the reality effect in the audio realm through their research on transcontextuality and listening paradigms. Priest helps us to understand these issues regarding acoustic music. For a useful example of how one work applies the concepts of transcontextuality and mimetic processes in recorded music, we will examine the audio reality effect and mimesis at work in *2 seconds / b minor / wave* by Michael Pisaro and Taku Sugimoto.

## 7. CASE STUDY: 2 SECONDS / B MINOR / WAVE

The work *2 seconds / b minor / wave* is a collaborative album composed by Michael Pisaro and Taku Sugimoto released in 2010 on Erstwhile Records (Pisaro and



**Figure 8.** Constructed and mimetic materials in 2 seconds.

Sugimoto 2010). Pisaro is a part of the *Wandelweiser*<sup>6</sup> international composers' group based in Dusseldorf, Germany and Sugimoto is associated with the related *Onkyo* music movement in Japan that concerns free improvisation and experimental music practice (Plourde 2008).

Each of the three 20:02 tracks on the album were 'composed/recorded separately' by Sugimoto and Pisaro, and were then mixed by Pisaro and composer/mastering engineer Taku Unami. In each of the tracks on the album, Pisaro and Sugimoto composed separate recordings on a given theme (such as the key of B minor) and their compositions are combined in the recording. This album is a useful case study concerning mimesis in the audio realm because it subtly combines constructed and phonographic materials into a mimetic space that slowly shifts from real to unreal through the simultaneous use of multiple modes of

surrogacy and the intermingling of different environmental indicative fields.

The work is a subtle combination of constructed or aural (traditionally musical) sounds such as electronic beeps and clicks, sustained sine tones, and percussive strikes that are in the 'instrumental' second order of gestural surrogacy with more phonographic or environmental sounds of the 'physical' first order of surrogacy (Figure 8). The gradual injection of more environmental sounds into the more traditionally musical sounds reconfigures the environment-field and space-field of the piece from being one of abstract, composed space to the 'real'.

The 'instrumental' or aural sounds usually have a very tightly mixed and edited presence in the recording that have a contained frequency response, much like a sound that has been digitally 'sampled', whereas the more phonographic recordings are the sounds of an interior environment (perhaps Pisaro's house and/or Sugimoto's apartment) that, while being mixed quieter in the recording, fill the frequency spectrum more fully (as real-world sounds tend to do).

<sup>6</sup>A helpful history of *Wandelweiser* written by Pisaro can be found at [www.timescraper.de/\\_texte/erstw-engl.html](http://www.timescraper.de/_texte/erstw-engl.html) (accessed 14 December 2015).

The beginning of the piece is dominated by the aural/constructed sounds of sine tones, metronomic beeps, electronic clicks, and what may be a guiro scrape. Combinations of these sounds are punctuated (very quietly) by the phonographic sounds, the most frequent of which is the creak of someone sitting back in a chair – possibly a recording of one of the composers sitting in their chair at home. As the piece continues, the balance between the constructed sounds and the environmental sounds becomes slightly more balanced as the phonographic sounds are given slightly longer durations, are mixed slightly louder, and start to include foregrounded sounds such as a door shutting twice at 4:35, a faucet being turned on and off at 5:17, and a blender going off three times from 7:30 to 7:55 (Sound example 6, 7:18–10:38).

The more these domestic sounds are brought into the foreground of the listener’s attention, the less the piece seems that it is in an ‘abstract’ compositional space and the more the piece appears to be inside the space of a home – a domestic interior. As the sounds with first-order surrogacy gradually come into equal prominence as the second-order instrumental sounds, the sense of the environment becomes more ambiguous and seems to slowly shift to a more ‘real’ space (Figure 9).

The subtle interweaving of first-order sounds and second-order sounds creates a mimetic ambiguity that raises questions for the listener – what space am I actually hearing? Is this the space of Pisaro’s home, or Sugimoto’s home, or both? Which composer made which sounds? Is a given sound a musical sound or an environmental one?

The interweaving of the different surrogate orders of sounds make it quite difficult to designate one set of sounds as the transcontextual agent, to parse whether the instrumental sounds are affecting the environmental sounds or vice versa. Sugimoto and Pisaro supply only ‘partial aural cues’ about the origins of the phonographic content, thus causing the listener to ‘generate their own extramusical meanings from deliberately ambiguous sonic information’ in what Field calls ‘sonic synecdoche’ (Field 2000: 49–50). When the listener is forced to generate their own mimetic meanings out of ambiguous sources, the audio reality effect comes into play as the listener draws on their own experiences to make sense of the hybrid spatial information. For example, if a listener is accustomed to hearing or making blender sounds in their home, the introduction of a blender sound into *2 seconds* could evoke memories and tactile experiences of using a blender in their home. The memory of a specific location can mingle with the aural or constructed aspects of the piece to create a collage of mimetic meaning – the audio reality effect can bring the musical constructions of Pisaro/Sugimoto into the interior life of the listener.

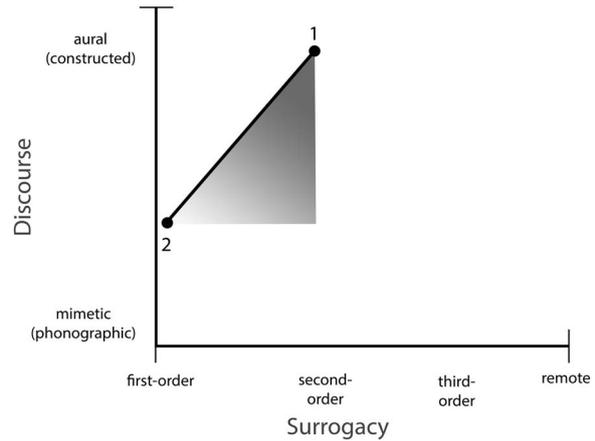


Figure 9. Transformation in *2 seconds*.

In *wave*, the left channel contains mostly tightly edited repetitions of wave recordings and the right channel contains a slowly evolving drone comprising guitar tones made with an ebow (and possibly sine tones). The wave recordings in the left channel are all of a similar duration, and usually contain the sound of a single wave washing up to shore. Each time the wave sounds repeat, they are filtered in a slightly different way. In the left channel, there are also more prolonged sustained sounds, presumably made by filtering noise content through tuned filters with a very tight quality control (Sound example 7, 0:00–2:36 and 12:37–14:14) (Figure 10).

The isolation of the wave sounds onto the left channel (and mostly noise sounds with a few sustained pitched) and the pitched drone in the right channel creates a sense of a hybrid space-field, one where second-order instrumental sounds create an ‘abstract’ composed-space on the right while the processed and edited wave sounds create a virtual phonographic environment on the left. There is a tension created between the phonographic wave sounds and their ‘abstract’, non-continuous compositional syntax. This tension is resolved in the piece by the pitched drones in the right channel infiltrating the left channel, creating an ambiguous interplay of both phonographic and constructed space as well as abstracted and mimetic syntax.

The increased repetitions and overlapping of the filtered wave sounds (climaxing at 13:00–18:00) in the piece evoke an environment that grows gradually more unreal. For one, the editing of the wave into a very tight singular sound is not the way one perceives the sounds of the ocean in everyday life; so from the first hearing of the wave at the beginning of the piece, it is clear that this is not the wave of a true ‘reality’. However, the repetition of the wave sounds with slightly different frequency combinations does evoke the way one perceives wave sounds in everyday life – the sounds of the ocean change in frequency content depending on

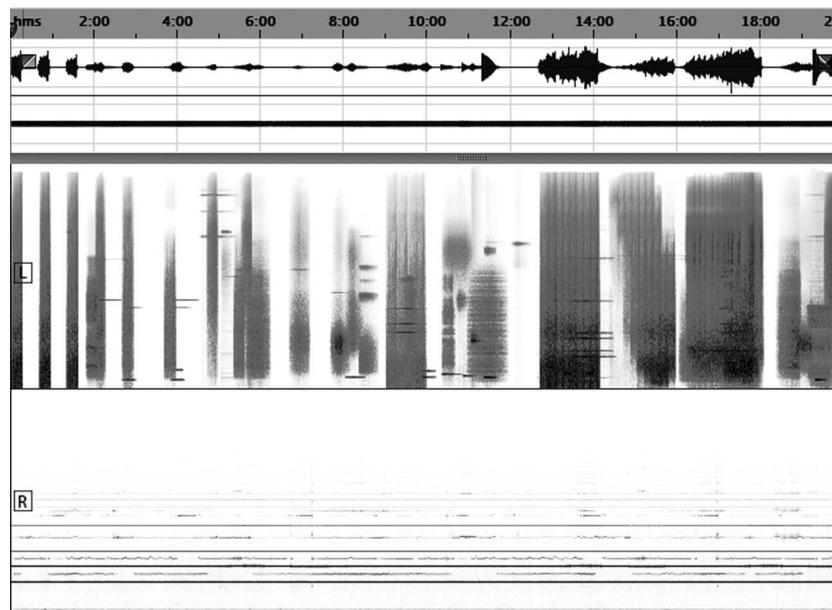


Figure 10. A stereo spectrogram view of *wave*.

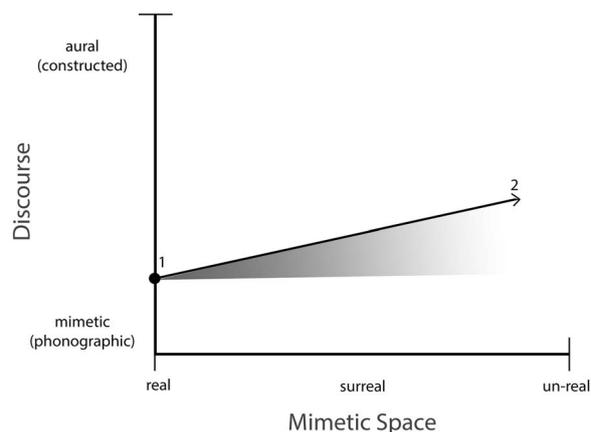


Figure 11. The changing mimetic implications of wave sounds in *wave*.

your distance from the water, the way the sounds filter through buildings or objects, etc. Therefore, the repetition of the waves juxtaposed against a drone becomes a meditative experience that evokes an increasing sense of the surreal, and even the unreal based on the listener's imagination (Figure 11).

Pisaro and Sugimoto achieve rich mimetic results from an economy of sonic and compositional means. The juxtaposition of sound sources with different orders of surrogacy and the intermingling of different qualities of environment and spatial indicative fields create subtly changing evocations of reality that challenge the listener to find their own extramusical meanings for the phonographic content in the work. In this way, the audio reality effect enriches one's experience of Pisaro and Sugimoto's collaboration by calling to mind one's everyday domestic reality as a part of their compositional process. By intermingling

abstract musical constructions with different real-life contexts, Pisaro and Sugimoto create complex representations of reality through the listener's memories and experiences by the audio reality effect. The perceptual result in the listener is one that ranges from memory, to imagined tactile experiences, to the contingencies of a surreal domestic reality.

## 8. CONCLUSION

The audio reality effect is a helpful way to demonstrate the relevance of mimesis for understanding current musical practice. Taking the 'real-unreal' mimetic continuum as a starting point, the audio reality effect has the capacity to articulate a listener's subjective experience of transcontextuality and surrogacy in terms of memory and tactility. As an application of Roland Barthes's 'reality effect' to the sonic realm, the audio reality effect integrates the scholarship concerning mimesis from literature with that of music.

One useful future application of the audio reality effect would be a micro-analysis of a given musical work using the audio reality effect as a primary parameter for building musical meaning, an attempt to integrate the subjective nature of the audio reality effect into the sort of phrase-by-phrase analysis common to traditional music theory scholarship. While it is relatively simple to discuss large-scale aspects of artistic works concerning the reality effect, a more focused and complete analysis using the audio reality effect will test its suitability for incorporation into the canon of musical analysis techniques. One method would be to have a group of scholars analyse a given work mimetically, and to compare their subjective interpretations of the audio reality effect.

Mimetic artistic practice, with its robust history and grounding in human perception, deserves due diligence in the field of music through creative and scholarly research. If music is increasingly regarded to be sound-poetry of the instability of reality as well as the art of sounds in time, then a mimetic understanding of the sonic arts, especially regarding context-based composition, will have taken hold in a truly worthwhile way.

### Supplementary material

To view supplementary material for this article, please visit <https://doi.org/10.1017/S1355771816000303>

### REFERENCES

- Barthes, R. 1982. *The Reality Effect*. *French Literary Theory Today*. Cambridge: Cambridge University Press.
- Baudrillard, J. 1994. *Simulacra and Simulation*. Ann Arbor: University of Michigan Press.
- Deleuze, G. 1990. *The Logic of Sense*. New York: Columbia University Press.
- Drever, J. 2001. *Phonographies: Practical and Theoretical Explorations into Composing with Disembodied Sound*. Thesis, Goldsmiths, University of London, London.
- Emmerson, S. 1986. The Relation of Language to Materials. In S. Emmerson (ed.) *The Language of Electroacoustic Music*. London: Macmillan Press.
- Ferreira, G. 1997. A Perceptual Approach to the Analysis of J. C. Risset's *Sud*: Sound, Structure and Symbol. *Organised Sound* 2(2): 97–106.
- Field, A. 2000. Simulation and Reality: The New Sonic Objects. In S. Emmerson (ed.) *Music, Electronic Media and Culture*. Burlington: Ashgate.
- Fischman, R. 2008. 'Mimetic Space – Unravelling'. *Organised Sound* 13(2): 111–22.
- Gann, K. 2010. *No Such Thing as Silence: John Cage's 4'33"*. New Haven: Yale University Press.
- Goldman, A. and Gilmore, J. n.d. Realism. *Encyclopedia of Aesthetics*. *Oxford Art Online*. [www.oxfordartonline.com/subscriber/article/opr/t234/e0432](http://www.oxfordartonline.com/subscriber/article/opr/t234/e0432) (accessed 17 December 2015).
- Kahn, D. 1999. *Noise, Water, Meat*. Cambridge: MIT Press.
- Morris, P. 2003. *Realism*. London: Routledge.
- Moszynska, A. n.d. Abstract Art. *Grove Art Online, Oxford Art Online*. [www.oxfordartonline.com/subscriber/article/grove/art/T000238](http://www.oxfordartonline.com/subscriber/article/grove/art/T000238) (accessed 17 December 2015).
- Norman, K. 1996. Real-World Listening as Composed Listening. *Contemporary Music Review* 15(1): 1–27.
- O'Callaghan, J. 2015. Mimetic Instrumental Resynthesis. *Organised Sound* 20(2): 231–40.
- Plourde, L. 2008. Disciplined Listening in Tokyo: Onkyō and Non-intentional Sounds. *Ethnomusicology* 52(2): 270–95.
- Potolsky, M. 2006. *Mimesis*. New York: Routledge.
- Prendergast, C. 1986. *The Order of Mimesis: Balzac, Stendhal, Nerval, Flaubert*. Cambridge: Cambridge University Press.
- Priest, E. 2013. *Boring Formless Nonsense: Experimental Music and the Aesthetics of Failure*. New York: Bloomsburg Academic.
- Risset, J. C. 1996. Real-World Sounds and Simulacra in My Computer Music. *Contemporary Music Review* 15(1): 29–47.
- Rubin, J. H. n.d. Realism. *Grove Art Online, Oxford Art Online*. [www.oxfordartonline.com/subscriber/article/grove/art/T070996](http://www.oxfordartonline.com/subscriber/article/grove/art/T070996) (accessed 17 December 2015).
- Russolo, L. 1916. *The Art of Noises Futurist Manifesto*. Trans. Barclay Brown. In *The Art of Noises*. New York: Pendragon Press, 1986.
- Schwartz, H. 1996. *The Culture of the Copy*. New York: Zone Books.
- Smalley, D. 1997. Spectromorphology: Explaining Sound-shapes. *Organised Sound* 2(2): 107–26.
- Smalley, D. 2009. The Listening Imagination: Listening in the Electroacoustic Era. *Contemporary Music Review* 13(2): 77–107.
- Truax, B. 2012. Sound, Listening and Place: The Aesthetic Dilemma. *Organised Sound* 17(3): 193–201.
- Underriner, C. 2016. *The Sound-Poetry of the Instability of Reality: Mimesis and the Reality Effect in Music, Literature and Visual Art*. PhD thesis, University of North Texas, Denton.
- Weiss, A. 2008. *Varieties of Audio Mimesis: Musical Evocations of Landscape*. Audio Issues Vol. 3. Canada: Gauvin Press, Errant Bodies Press.
- Wishart, T. 1996. *On Sonic Art*. Amsterdam: Harwood Academic.
- Young, J. 1996. Imagining the Source: The Interplay of Realism and Abstraction in Electroacoustic Music. *Contemporary Music Review* 15(1): 73–93.

### DISCOGRAPHY

- Dunn, D. 2006. *The Sound of Light in Trees*. EarthEar records.
- Martats. 2011. 'Big Waterfall'. <http://freesound.org/people/martats/sounds/128049/> (accessed 10 August 2016).
- Pisaro, M. and Sugimoto, T. 2010. *2 seconds / b minor / wave*. Erstwhile Records, ERSTWHILE 061.
- Smalley, D. 1992. *Wind Chimes* (1987). On Impacts intérieurs. Montreal: Empreintes Digitales, IMED-9209-CD.
- Tokernholdt, J. 2014. 'Daily Routines: Shower'. [www.freesound.org/people/Tokernholdt/sounds/254018/](http://www.freesound.org/people/Tokernholdt/sounds/254018/) (accessed 15 November 2015).
- Truax, B. 2001. *Pendlerdrom* (1997). On Islands. Cambridge Street Records, CSR-CD 0101.