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# Disembodiment: reproduction, transcription, and trace

by Aaron Einbond

## Abstract

This provocation poses the question: what is so great about the body? Recent scholarship has emphasized the cognitive concepts of “embodied or situated cognition” (Iyer 2002) and reminded us that “the bodies playing the music are part of the music” (Walshe 2016). Yet, as vital as these observations may be, they offer only a limited view of what “touch” can mean. Following the semiotic notion of the index as a sign with “a real connection with its object” (Pierce 1903/1958-66), writers and artists such as Friedrich Kittler, Ai Weiwei, Kenneth Goldsmith, and Nicolas Donin have reflected on how the reproductions of the gramophone needle, the calligrapher’s brush, the blogger’s keyboard, and the programmer’s code can trace meaningful points of contact. Examples from my own practice of acoustic instrumental transcriptions of audio recordings illustrate some of the many possible ways that digital traces can be touching.

## Text

*Trace and aura. The trace is appearance of a nearness, however far removed the thing that left it behind may be. The aura is appearance of a distance, however close the thing that calls it forth. In the trace, we gain possession of the thing; in the aura, it takes possession of us. (Benjamin 1982/1999, 447)*

What is so great about the body?

Recent literature in a wide range of disciplines has focused on embodiment, assuming or claiming its normative value. This includes areas of music scholarship, composition, sound art, and sound studies where the body has received a wealth of attention to make up for its previous dearth. Composer and performer Jennifer Walshe comments on this change of orientation:

Perhaps we are finally willing to accept that the bodies playing the music are part of the music, that they're present, they're valid and they inform our listening whether subconsciously or consciously. That it's not too late for us to have bodies. (Walshe 2016)

This acknowledgement parallels an earlier turn towards embodiment in the field of music perception, as described by pianist and composer Vijay Iyer,

The viewpoint known as *embodied* or *situated* cognition treats cognition as an activity that is structured by the body situated in its environment—that is, as embodied action. In this view, cognition depends upon experiences based in having a body with sensorimotor capacities. (Iyer 2002, 388-89)

These authors point to constructive effects of bodies on artistic practice, implying that without them would be a loss—"too late". But what of the positive effects of disembodiment? Without (in both senses) the body, there are other ways to touch and be touched. This is arguably one of sound's—and music's—touchstone capabilities, as recognised by philosophers for centuries. Or as Leonard Cohen put it, "for you've touched her perfect body with your mind".

Charles Sanders Peirce's semiotic theory defines the three signs *icon*, *index*, and *symbol* according to their degree of contact with their referent: "[Index] is a reactional sign, which is such by virtue of a real connection with its object". (1934, Vol. V, 74) The index is

echoed in Walter Benjamin's concept of *trace* cited above (1982/1999, 447). The "nearness" may have been real at one point, no matter how "far removed" it later becomes: for example, an audio recording, as theorised by Benjamin in his earlier essay on "mechanical reproduction". Friedrich Kittler claims that the phonograph is in fact the origin of the trace: "which is why all concepts of trace [...] are based on Edison's simple idea. The trace preceding all writing, the trace of pure difference still open between reading and writing, is simply a gramophone needle" (1986/1999, 33).

How can an object, far removed, still touch us? "The frequency curves of noises inscribe their wavelike shapes onto the phonographic plate. A reproduction authenticated by the object itself is one of physical precision" (Kittler 1986/1999, 12). Precision is the key: what the trace gains from its referent is microscopic detail that would have been impossible to reproduce otherwise. This does not preclude noise, distortion, or other interference with the signal: even an early wax cylinder, as referenced below, still can give the "appearance of nearness". Through the simple technology of its one-dimensional curve, a vinyl groove has a seemingly magical power to bring us close to its source.

Like the phonograph needle, the calligrapher's brush, too, traces the microscopic motions of its subject. But calligraphy can also be understood more broadly. According to artist and activist Ai Weiwei, "calligraphy is the traces of the mind, or maybe an emotion or thought. Now, with a computer you have photo images, you have the radio. Calligraphy is no longer the matter of hand" (Ai Weiwei and Hans Ulrich Olbrist 2011, 85). This is especially true for Ai's peripatetic practice including sculpture, photography, video, installation, blogging, internet crowd-sourcing, and digital fabrication. Ai's point of view contradicts Kittler's orthodoxy: not only the analog phonograph is capable of authenticity, but digital reproduction can also trace with precision. As writers Kenneth Goldsmith and Marjorie Perloff have observed, digital manipulations can be as expressive as their analog

counterparts: “Perloff has coined a term, *moving information*, to signify both the act of pushing language around as well as the act of being emotionally moved by that process” (Goldsmith 2011, 1).

This applies all the more to the “big data” of the last decades, where precision can be overwhelming in scale, both in its magnitude and its fineness of detail. Musicologist Nicolas Donin acknowledges how notions of reproduction have broadened since Benjamin and Kittler: “‘Composition’ [...] now includes as well the navigation between different ‘reproducibilities’ through operations of translation such as transcription, transcoding, or transformations” (Donin 2015, 2). The digital index and its referent can be farther removed than the phonograph and needle, yet still rich with precision. Discussing what he terms “instrumental resynthesis” in the work of recent composers, including my own, Donin recognises that as important as the nearness of reproduction is distance:

a paradoxical and liminal phenomenon, resynthesis is definitely closer to haunting, possession, illusion, or ventriloquism than to imitation. When we hear an uncertain rain or a shadowy voice, some pre-existing sound appears to be at once present and not fully audible.

Which brings us back to “disembodiment”: as significant as the bodies or objects that produced a trace is their subsequent absence. Their loss is what touches us. Taking two examples from my own compositions, I hope to flesh out the ways disembodied subjects—architectural, historical, and literary—can be central to an expressive digital practice.

My music centres upon timbral transcription, reproducing sound from one source with another based on its colour and texture (Einbond 2013). In *Passagework* for two percussionists, two pianists, and electronics (2010) the compositional process began with binaural field recordings I made following Benjamin’s *Das Passagen-Werk (The Arcades Project)* through the arcades of Paris. Each recording is meticulously transcribed for a different combination of percussive instruments and timbres. Precision comes from the large database of noise-rich instrumental samples, co-created with the performers of the ensemble

Yarn/Wire, as well as the detailed micro-timing of audio analyses according to a list of timbral descriptors, audio features extracted from the recordings using the software package *CataRT* (Schwarz 2006) for computer program *Max*.



Left: Galérie Vivienne in 1905 (public domain). Right: recording Galérie Vivienne (photo by Soili Mustapaa)



Laura Barger and Russell Greenberg of Yarn/Wire performing *Passagework* (photos by Melanie Aronson)

Even more than a phonograph needle or calligraphy brush, the analyses of field recordings produce an over-abundance of data that I must subjectively control to compose the

score. The precise analyses yield varying degrees of reference to the recordings: overt as echoes of footsteps, transcribed for the two pianists' forceful pedal action, or abstract as resonant frequencies rendered by gentle tremolos on the piano strings by the percussionists' foam mallets. In performance, some of the transcriptions are presented accompanying the original field recording while others are purely instrumental, in which the original field recording exists only as a pale impression, a faded daguerreotype. As Donin writes,

The aura of the original sound may fade or vanish due to the loss of the reference, anyway some 'subcutaneous' trace of it will last and effectively shape the passage in a specific way [...] the referent is secondary, subliminal—it is consumed in and by the writing, reduced to a quintessential flavour, emancipated from the disturbing boldness of conventional meaning. (Donin 2015, 10)

The performance itself is also partially invisible: the four instrumentalists play inside two pianos, their hands obscured from the view of the audience, their minute physical gestures only audible with close amplification and contact microphones. The audience's curiosity is drawn to the hovering bodies of the performers, yet their actions are only indirectly revealed. Speakers are hidden beneath the two pianos so that the amplification and field recordings appear to emanate from the hollow vessels of the instruments.

The staging encourages acousmatic listening: "a situation wherein one hears the sound without seeing its cause [...]. Acousmatic sound draws our attention to sound traits that normally hidden from us" (Chion 1990/94, 32). Acousmatic listening has been thoroughly theorised in electroacoustic music, but much less for instrumental music. I have called my practice *musique instrumentale concrète*, playing on Helmut Lachenmann's *musique concrète instrumentale*, to describe the use of acoustic instruments to conjure unseen acoustic realities. In *Passagework*, the physical causes of the instrumental sounds are hidden along with the original field recordings that have been transcribed. The reference to Benjamin takes his concept of "trace" full circle, as the pianos become "passages" for the disembodied field recordings, resonating with the arcades' faded history. A complete recording of

*Passagework* (Yarn/Wire 2010) can be heard at the following link:

<https://soundcloud.com/aaroneinbond/passagework>

Trace, index, the unseen, and the disembodied are themes that also permeate *Hidden in Plain*, site-specific music theater for mezzo-soprano, baritone, clarinet/bass clarinet, violoncello, and electronics (2016). Once again audio recordings are rigorously transcribed for the four performers, but they are presented with a difference: in outdoor and indoor locations in Aix-en-Provence, where the work was premiered during the annual opera festival in 2016. P and M, loosely based on *Pelléas and Mélisande* of Maurice Maeterlinck's play and Claude Debussy's opera, are characters in an imaginary drama whose narrative is constructed in the minds of the audience members as they stumble upon or follow the action to hidden corners of the city. Further "characters" are represented by the two instrumentalists and the field recordings themselves, such as a fountain and a cicada drawn from Aix and its environs.

Also present—and absent—are Claude Debussy and Mary Garden, the original Mélisande, recorded on a wax cylinder in 1904 performing "Mes longs cheveux", sung in the opera by Mélisande. The crackling and quavering recording was transcribed, in collaboration with mezzo-soprano Marielou Jacquard, based on Debussy's setting. Precision permeates multiple layers of transmission and transcription from the historical recording; yet due to the noisy source, the result is fractured and permuted, creating a new melody in dissonant heterophony with the original.

In director Jude Christian's staging, the audience hears and is drawn to M from across a courtyard, finding her at the other end of a dark dressing room into which they can look but not enter, singing along to a wobbly Victrola beneath a cracked mirror. Her remoteness is emphasised by the immersive performance, where the audience must move physically to approach M, but still remain at a distance. The scene ends as M approaches and sits on the windowsill, briefly close enough for the audience to touch her, only to descend again and



disappear, singing “[che]-veux *descendent*”. The line refers to Mélisande’s hair, one of the most vivid yet ethereal parts of her body in Maeterlinck’s text, hanging tantalisingly from the tower.



Marielou Jacquard as M in *Hidden in Plain Sight* (photos by Jean Claude Carbonne)

In other scenes, the four musicians are hidden in a dark hall and only the flashlights held by P and M and the instrumentalists’ music stand lights are visible. Or P is lost in the crowd seated in a public café, unnoticed by the audience and passers-by until he begins to sing. Or M is not seen but heard from afar, hidden behind the audience or a courtyard wall. In each setting the concealed bodies of the performers allude to the emotional disconnection between P and M in the imagined narrative, as well as their opaque, symbolist characters in Maeterlinck’s and Debussy’s dramas. Absent bodies also allude to the setting of the Festival d’Aix, where the streets seem to echo with the voices of operas past: as if P and M have themselves escaped from an operatic stage, and are pursuing their secret lives in the city only accidentally observed by the public. A video trailer for *Hidden in Plain Sight* can be viewed at the following link: <https://vimeo.com/aaroneinbond/hidden>

One could rightly observe that we need bodies in the first place to experience their absence. However, recent discourses on embodiment have been dominated by more literal interpretations of touch, as if physical bodies up front on stage before an audience were the only possibility. Absence, distance, invisibility, and loss are as powerful as their inverses, and digital traces can be as moving as their analog counterparts. The disembodied data of the present promises manifold new ways of touching sound.

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